MARINE REVIEW.

VOL. XVII. CLEVELAND, O., JUNE 30, 1898. No. 26.

A Radical Change in Royalties.

The Cleveland-Cliffs Iron Co., which controls over 50,000 acres of land in the Lake Superior iron ore district, has this week announced a new schedule of royalties to take effect July 1 on all those portions of the lands under its control, which were thrown open for option and lease some years ago. The old schedule was nominally 30 cents for non-Bessemer, 40 cents for Bessemer and 50 cents for the higher grade of Bessemer ores. Reductions have occasionally been made before, but this is the first formal adoption of a very low schedule of royalties that has been made by any large land holding interest in the Lake Superior country and is bound to have an important bearing upon the whole question of royalties in the iron ore region. The company gives as its reason for the present action the continued lower range of values in the iron industry and a consideration of the fact that the rates heretofore in force were established some time ago when prices were high. The sliding scale has been adopted for the reason that it is believed to constitute the fairest possible plan. Royalties are always to be based on Cleveland, or rather Lake Erie port, prices, whether governed by the market or by actual sale, and if the ore is to be delivered at any place other than Cleveland, the difference in freight rates, if any, shall be added to or deducted from such contract to determine the rate of royalty. The new schedule of royalties is as follows:

Price, From	To	Royalty.	Price, From	To	Royalty.
$....	$1.49	.07	$2.35	$2.39	.21
1.50	1.59	.08	2.40	2.44	.22
1.60	1.69	.09	2.45	2.49	.23
1.70	1.79	.10	2.50	2.54	.24
1.80	1.89	.11	2.55	2.59	.25
1.90	1.94	.12	2.60	2.64	.26
1.95	1.99	.13	2.65	2.69	.27
2.00	2.04	.14	2.70	2.74	.28
2.05	2.09	.15	2.75	2.79	.29
2.10	2.14	.16	2.80	2.84	.30
2.15	2.19	.17	2.85	2.89	.31
2.20	2.24	.18	2.90	2.94	.32
2.25	2.29	.19	2.95	2.99	.33
2.30	2.34	.20			

The above progression is to continue so that one cent additional royalty will be required for each additional five cents increase in price.

Lake Freight Matters.

One vessel concern in Cleveland is shipping soft coal just now at the rate of 75,000 tons a month. All this coal is covered by 20-cent contracts, some of which run to about Oct. 1 and others to Nov. 1 and Nov. 15. This same concern has ore contracts for most of its vessels. There are several other vessel owners controlling a large amount of tonnage who are similarly situated, and who secured, as far as it was possible to do so, after the vessels of the ore companies had been supplied, blocks of ore with which to provide return cargoes from both Lake Superior and Lake Michigan. As late as a few days ago, considerable soft coal to go from Buffalo to Lake Superior was covered by contracts running to Nov. 25 at 20 cents. Some coal to be moved from Ohio ports to Gladstone at 20 cents freight and running late in the season, has also been covered within the past few days. It will thus be seen that even up to the present time shippers of both ore and coal are covering their sales by lake freight contracts at the low rates that have been established by the big steel freighters. With such a condition of affairs the heads of the large ore and vessel companies are declaring that lake freights in the future are destined to be as steady as the freight charges of any of the trunk line railways. This claim will probably not apply, they say, to the coal business, or to the less important lines of lake traffic, but it would seem that there is considerable truth in it as far as ore is concerned.

If it were not for the large amount of ore and coal that has been provided for by contracts, there would probably be some hope of success attending the effort that is again being made to tie up vessels of the smaller class on a minimum freight agreement. Freights have reached such a low basis that a concerted movement toward putting a large part of the fleet in ordinary would seem to be the only remedy, but the ships that have contracts will not enter into any agreement of this kind.

Another Shoal Found.

Capt. J. W. Morgan of the Minnesota company's steamer Marina reports that his vessel, which is now undergoing extensive bottom repairs at Lorain, as a result of stranding while on her way into Ashland to pick up a consort, was not on Raspberry island but on a new shoal directly in the channel abreast of the light on that island. The Marina had loaded at Two Harbors and was drawing 17 feet 3 inches. She was on the regular course into Ashland and it is claimed that the chart indicates 13 or 14 fathoms of water where she stranded. Capt. Morgan will prepare a report of the accident, to be submitted to the proper government officials.

A contract was closed this week by the Lorain Steel Co. of Lorain, O., with John Stang for the construction of 900 feet of docks for its new blast furnace plant and for the dredging necessary to give 20 feet of water in Black river for a distance of 30 feet from the edge of the dock. The docks will be 24 feet wide and will carry two railroad tracks. The contract amounts to $50,000 and a force of 100 men will be employed for six months.

A Change in the Management of the Review.

Eight years ago F. M. Barton and John M. Mulrooney undertook the publication of the Marine Review. The first issue appeared March 6, 1890. These eight years have passed hurriedly in the office of the Review, and no doubt the time will seem short also to many of the vessel men who remember the first number. But in this period of a few years a great change has taken place in lake shipping. Especially remarkable is the change from wood to steel vessels, and from vessels of 2,000 or 2,500 tons to big freight carriers of full 7,000 net tons. The Review has tried to keep pace with this progress; to keep up with what is being done on the lakes, and to present to builders and owners of lake vessels the experience of older shipping districts. In the publication of the Blue Book of American Shipping, now in its third year, an effort has been made to cover a wider field, and compile, each year, from reliable sources in all parts of the United States, all manner of information that is of value to shipping interests generally. Both of these publications are now very well known throughout this country, and to some extent in the ship building and ship owning centers of Europe. Names of the publishers have not been made prominent. They are not of great consequence. We have refrained at all times from attaching personality to either publication, and the names would not now be mentioned but for a desire to give to Mr. Barton, who is leaving the Review, a full share of credit for any success that has attended these publications. The half interest in them which he has owned from the beginning he has sold to John M. Mulrooney, who becomes sole proprietor. Mr. Barton is deserving of gratitude from vessel men for the degree of success that has been attained in serving their interests. He leaves to undertake, after a short vacation, the management of a gospel publishing business already established in Cleveland and Chicago and offering a wide field of usefulness suited to his inclinations. Success to him in this work will be gratifying, and his associates on the Review certainly wish him well. For several months he has been instructing and familiarizing employees in the work of his department of the Blue Book and the Review, which will be taken up by competent hands. The best of feeling has been manifest in the change, and the agreeable manner in which it has been carried out is somewhat unusual in business. No lawyer was consulted in the beginning; not even the scratch of a pen was made for the partnership agreement. The separation is in most respects equally simple.

More Heavy Repair Bills.

Bottom damages to the steel works, which are highly expensive at all times, are just now furnishing an unusual amount of work to the ship builders. The Menominee line steamer Saxon, one of the vessels chartered to the Canada Atlantic company for service between Chicago and Parry Sound, has been in contact with a bad spot on Georgian bay and has forty-eight frames and floors and sixteen shell plates damaged. The damage is in tanks Nos. 1 and 2 on the port side.

The Saxon will be repaired at the dry dock of the Chicago Ship Building Co. The interests of the owners will be looked after by Robert Curr, surveyor. The steamer America, built at Detroit last autumn, struck a dock in the Chicago river and damaged her stern, affecting two plates and several frames. She will also be docked by the Chicago Ship Building Co.

The Minnesota Iron Co.'s steamer Marina is in the Cleveland Ship stranding near Raspberry island, Lake Superior. Repairs on the vessel Building Co.'s dock at Lorain undergoing repairs as a result of her recent will be expensive, the minimum estimate of cost by the dry dock people being $20,000, while some estimates made have placed it as high as $35,000 or $40,000, but there would hardly seem to be any justification for the assertion made in newspaper dispatches that the damage sustained is in excess of that caused by stranding in the case of any other steel vessel on the lakes. A feature of the damage is found in the small size of the punctures in the plates. Of the 125 bottom plates which have been damaged, fully seventy-five will have to be replaced by new ones. Fully 175 floor plates are also damaged, and an equal number of frames will have to be repaired or replaced by new ones. Upon a conservative estimate four or five weeks will be required for the completion of the repair work on the vessel.

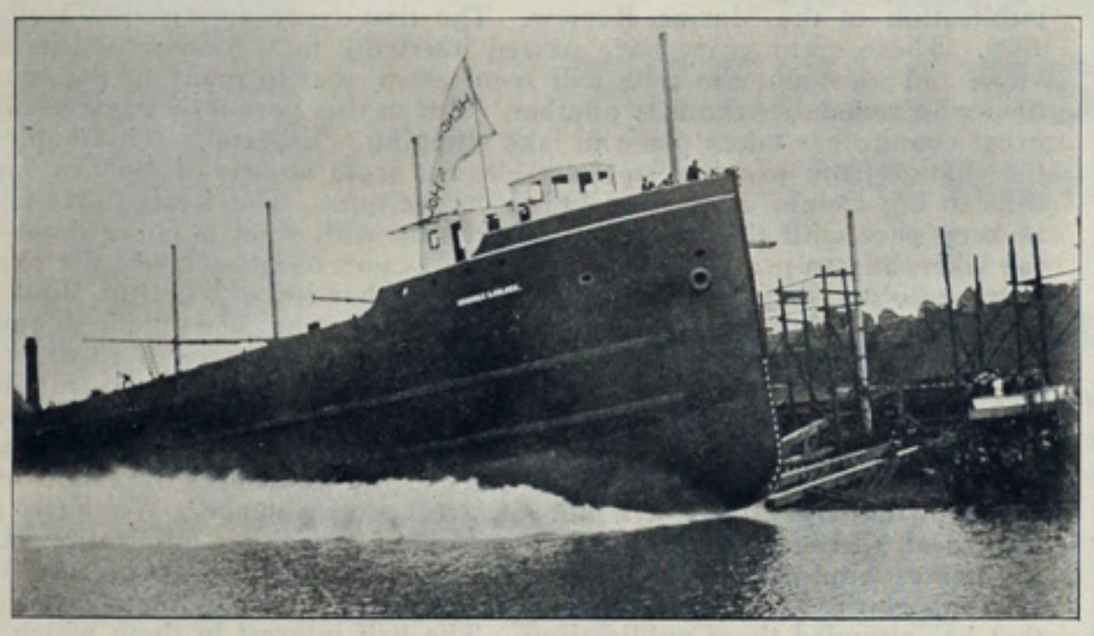
With a view to informing ship masters generally regarding the places where these accidents occur, officials of the Great Lakes Register and the McCurdy-Prime insurance syndicate of Chicago are assisting, as far as possible, in getting reports from the captains of injured vessels. The captain of the steamer Yuma of the Wilson line reports that while rounding to make the Cuddy-Mullen coal dock, she grounded about 400 feet south of the float, which is placed clear of the shoal on the south and in about 19 feet of water. The government has a black spar buoy in 16 feet of water on the east bank of this shoal, and the Cuddy-Mullen company has staked off the shoal and placed the float above referred to in good water. It has been the general belief that there was at least 6 fathoms of water everywhere in the immediate vicinity of the stranding, but this would seem to be at variance with the facts, since the Yuma stranded not more than 400 feet south of the Cuddy-Mullen float while drawing 17 feet 6 inches of water. The spot is evidently a small one, as the Yuma was not greatly damaged and has been permitted to continue in service without a survey. Another of the Wilson line vessels, the Yakima, is in the Ship Owners' dock, Cleveland, undergoing repairs that will cost about $3,000 and occupy ten days' or two weeks' time, due to collision with the schooner Helvetia in the St. Clair river on her last trip up the lakes.

The steamer Minnie E. Kelton has been sold for $40,000 by the Kelton Transportation Co. to Samuel Neff & Son of Milwaukee.

Two Large Freighters Launched.

Two large freight steamers were launched at lake yards last Saturday. The steamer Hendrick S. Holden, building for Capt. John Mitchell and others, slid into the water at the yard of the Globe Iron Works Co. at Cleveland, while the Alexander McDougall, the largest vessel of the whaleback type yet constructed, was launched at the American Steel Barge Co.'s yard at West Superior, Wis.

The Holden, which was very fully described in the last issue of the Review, is 430 feet over all, 50 feet beam and 28 feet depth. She was



christened by Miss Mary Stewart of Syracuse, N. Y. Capt. C. B. Gallon will command the vessel when she goes into commission, and W. F. Sauber will be chief engineer.

The Alexander McDougall is of exactly the same length and beam as the Holden, but of only 27 feet depth. She was christened by the little daughter of Capt. McDougall, the plan having been arranged as a surprise for him. The picture of the launch of the Holden, herewith presented, is from a photo taken for the Review by Mr. W. H. Mack of Cleveland.

Commodore McNair on the Navy.

Commodore F. V. McNair, U. S. N., who as chairman of the lighthouse board made a tour of inspection through the great lakes this week and last, talked at some length to the Review on naval matters. Commodore McNair's views are of special interest just at this time, when it is remembered that he was succeeded by Admiral Dewey as commander of the Pacific squadron only a few months before the battle of Manila, and had drilled the men of the fleet to that point which made possible the marvelously efficient marksmanship which they displayed in that engagement.

Commodore McNair, in the course of his remarks, said: "The creditable marksmanship displayed by the American sailors in the Manila engagement, as well as in the encounters in the vicinity of Cuba, I do not regard as especially surprising, and I would unhesitatingly attribute it to the strict system of target practice which is maintained in our navy. That sort of thing is expensive, but our government believes that it pays in the end, and I think that the present war has demonstrated the correctness of that theory. In the French and English navies the same system is followed, but every day of target practice entails an expense of several thousand dollars, and most of the other navies do not consider that they can afford it, save at infrequent intervals. I am confident that in proportion to the size of her navy the United States spends more for target practice than any other one nation, with the possible exception of Great Britain. I want to say, too, that, laying aside all patriotic feeling, I am confident that our navy is, considering its size, the best in the world, and I am very sure from intimate association with them that it is manned by the best all around officers."

In speaking of the needs of our navy Commodore McNair said: "I am not at all in accord with those officers who argue that the speed of the new battleships should be increased to 18 knots. I agree with the board that 16 or 17 knots is quite enough. The protected cruiser is a very valuable vessel, a fact of which I became convinced during my service on the Olympia. The idea of a protected cruiser, you know, is to have a boat capable of doing considerable damage if opportunity offers and yet able to get away from heavier and slower vessels should her upper works be shot away or her fighting qualities otherwise impaired. To be of the greatest service she must essentially have a great steaming radius. I will admit that we are rather weak in the matter of armored cruisers, and I am convinced, too, that the armored cruiser is the most efficient all-around type of vessel. The New York and the Brooklyn are practically the only vessels of this class in our navy, and several of the nations have armored cruisers which are speedier than either, although this matter of speed in an armored cruiser I do not regard as of the greatest consequence."

In speaking of the situation on the Pacific, Commodore McNair expressed his opinions as follows: "I don't believe you can find a naval officer in the service but what is impressed with the need and advantage of a coaling station at Honolulu, and consequently we are all, of course, earnest advocates of annexation. The same is true in a degree of the Philippine islands. Consider how eager we were to secure a coaling station at Samoa and of what advantage it has proven since we secured it."

The electric plant on the 700-foot White Star liner Oceanic, building at the works of Harland & Wolff, Belfast, Ireland, will probably be the largest ever placed on shipboard. It will comprise four dynamos, and, in addition to lights equivalent to 4000 sixteen candle-power lamps, a number of motors will also be fitted.

Ship Builders Opposed to the Eight-Hour Day.

Some of the best informed ship builders in this country appeared before the senate committee on education and labor at Washington, a few days ago, in the presentation of arguments against the passage of the pending bill, already favorably acted upon by the house of representatives, providing for a limitation to eight hours of the daily service of workmen and mechanics employed upon public work or work done for the United States. The most strenuous objection was made to section 2 of the bill, which provides for imposing a fine of $10 for each workman, for every day which he is permitted to work over eight hours. The gentlemen representing the ship building and kindred interests were: Charles H. Cramp and Judge McCammon, the former president and the latter attorney of the William Cramp & Sons Ship & Engine Building Co.; ex-Representative Payson for the Newport News Ship Building & Dry Dock Co.; ex-Senator Higgins of Delaware, representing the Harlan & Hollingsworth Co. and the Pusey & Jones Co. of Wilmington, Del.; Robert P. Linderman and R. W. Davenport of the Bethlehem Iron Co., and W. E. Corey of the Carnegie Steel Co.

Mr. Payson said that it would be practically impossible for the Newport News company to operate its plant successfully should the law be passed, especially inasmuch as the question might be raised as to whether the law would not apply even to material purchased in the open market by sub-contractors. Said he: "Of the 4,000 men in our employ less than one-third are engaged on government work. All our men work upon the per diem plan, their wages ranging from $1.25 per day for the most unskilled laborers to $6 or $7 per day, the maximum wage for the most skilled artisans. Our wage standard has never been a subject of dispute between our employees and ourselves." He argued that the plan of having some of the men work eight hours and the others ten—the inevitable consequence of the proposed bill—would induce such friction as to virtually compel the firm to either reduce the hours of work to eight on all private contracts or else discontinue the acceptance of all government work.

Mr. Cramp presented a clear, business-like review of the practical difficulties that the enforcement of such a law would entail. He first explained that the contingency would necessitate the organization of two forces of workmen in separate plants, one to do work for the United States and the other for work on the contracts with private individuals and foreign governments. "We are at present," said Mr. Cramp, "building men-of-war for Russia and Japan, and in the securance of the Russian contract we had to compete with German and French and to some extent with English builders, and I may say with positive assurance that had we been working under an eight-hour law it would have been practically impossible for us to have secured such a contract in the manner necessitated by the circumstances. The French builders were unwilling to give a price unless allowed six months in which to prepare drawings for the ships, which we have undertaken to deliver complete in thirty months. We made a price with only a letter containing a few specifications, instead of a drawing to figure from, and we are engaged on the work and the drawing simultaneously. The French wanted five years' time in which to deliver the vessels, and the German and Russian builders wanted more money and longer time. We secured those contracts because we can build the vessels for a little less than others and in a shorter time, but if we are to have outside interference with our business—a business that has taken three or four generations to build up—by irresponsible people, we might just as well close up our yard." Mr. Cramp went on to say that his firm had built vessels for the Japanese government because they were able to bid 20 per cent. lower than Armstrong and the German yards, and he laid stress on his belief in the high skill of the firm's labor, coupled with the fact that there has been no dispute or complaint about wages. He showed the great difficulty in keeping the tasks on government and private jobs separate, and declared that such an effort would entail an increase of 25 or 30 per cent. in expense, if indeed it could be done at all.

Underpaid Officers of the Navy.

The splendid record made by the United States navy ever since the commencement of the present war has served to again call attention to the injustice of the prevailing schedule of salaries for naval officers as compared with the apportionment of pay in the army. The Army and Navy Journal, one of the publications which is urging that the attention of congress be given to the matter, publishes a comparative statement which is probably quite as accurate as it is possible to make it, owing to the fact that the pay in the service varies according to the nature of duty and length of service. The pay of officers of corresponding rank is, in a general way, as follows.

Army—Highest pay.		Navy pay.	
Brig. General	$5,500	Rear Admiral	$4,000 to $6,000
Colonel	4,500	Commodore	3,000 " 5,000
Lieut. Colonel	4,000	Captain	2,800 " 4,500
Major	3,500	Commander	2,300 " 3,500
Captain	2,800	Lieut. Commander	2,000 " 2,800
First Lieut.	2,200	Lieutenant.	1,200 " 2,400
Second Lieut.	1,500	Ensign	1,000 " 1,400

The incidental expenses of naval officers are also enormous. They must board and clothe themselves, and $30 per month for each officer is said to be a very moderate estimate of the expense of the former. He must provide the furnishings for his room, and wearing apparel expense bills are excessive, owing to the number and character of uniforms required. When the United States naval officers lost their belongings in the terrible storm at Samoa several years ago, a bill was introduced to reimburse them. Estimates were asked from tailors for the cost of an officer's outfit. The wearing apparel of a lieutenant was figured at $1,365, that of an ensign was fixed at about $1,050, and the rear admiral's at about $2,000.

One fare excursions via Nickel Plate road, July 2d, 3d and 4th. Ask agents.
105, July 2.

Governmental Trial of the Algonquin.

The governmental trial of the United States revenue cutter Algonquin, built by the Globe Iron Works Co. of Cleveland, which took place on the trip of the new vessel from Cleveland to Ogdensburg, was declared entirely satisfactory by the members of the board of revenue cutter service officials who were on board. That the vessel did not attain the speed anticipated is attributed to the fact that she was off her running line in consequence of having on board a great quantity of deck planking and other material to be used when the Algonquin is cut in two and taken through the Canadian canals. That this cargo, aggregating 40 or 50 tons, put the boat by the stern was not wondered at by the engineers in charge. It also resulted in the cutter being deeper in the water than her load line, the draft of the vessel ranging from 11 feet 10 inches to 11 feet 11 inches aft, and from 9 feet 10 inches to 10 feet forward. When the cutter got onto Lake Ontario where the water was very clear it was also found that the bottom was quite foul. The official trial was made on Lake Ontario during four hours' steady steaming under forced draught. The vessel developed an average speed of 17.6 knots per hour. A second speed run of 1½ hours was made later, but the men in the engine room, being inexperienced at the work, were unable to stand the heat, and the run was made without the forced draught. The average speed, however, was 17.2 knots. Engineer Jeffries and the others on board expressed considerable surprise that the speed under natural draught should have been so little less than that attained by the use of the blowers. The engine revolutions varied from 150 to 167. The consumption of coal per hour was 2,550 pounds under natural draught and 5,100 pounds under forced draught. A coincidence noted was that the steam pressure varied from 150 to 167 pounds, exactly the same range covered by the engine revolutions. It is expected that under ordinary steaming speed of 13 knots the consumption of coal will be in the neighborhood of 1,800 to 2,000 pounds per hour. The pumps were tested for general utility rather than for capacity and the working was highly satisfactory. Engineer Jeffries also stated after the trial that the engine was the smoothest running of any with which he ever had any experience, the fact that it was running being imperceptible to a person on deck. The government having specified the type of engines to be used in the cutter, there was no speed limit embodied in the contract, but the trial was entirely satisfactory to all the officers on board, almost all of whom expressed the conviction that 18 knots could easily have been made under more favorable circumstances. Supt. R. L. Newman remained at Ogdensburg to superintend the work of cutting the vessel in two preparatory to transportation through the canals. The work is being done by a force of nineteen men from the yard of the Globe company at Cleveland, assisted by a large force of men from the Ogdensburg marine railway. It is estimated that the Algonquin will be at Montreal inside of three weeks. Work will now be pushed on the other cutter, the Onondaga. It is thought she will be ready for the builders' trial in about six weeks.

Some very creditable records have recently been made by the coal loading machines at Toledo, built by the Brown Hoisting & Conveying Co. of Cleveland. The machine on the T. & O. C. R. R. dock loaded into the steamer Lagonda in 11 hours, 154 cars of coal—about 4,150 tons. At the Columbus, Hocking Valley & Toledo dock the steamer McWilliams was loaded with 165 carloads, or 4,432 tons, of coal in 11 hours. The officials claim that with a little effort they could load 5,000 tons of coal in that space of time. The Brown company has received an order for a wrecking car for the Standard Oil Co. A steam crane of 10 tons capacity will be a feature of the equipment of the car.

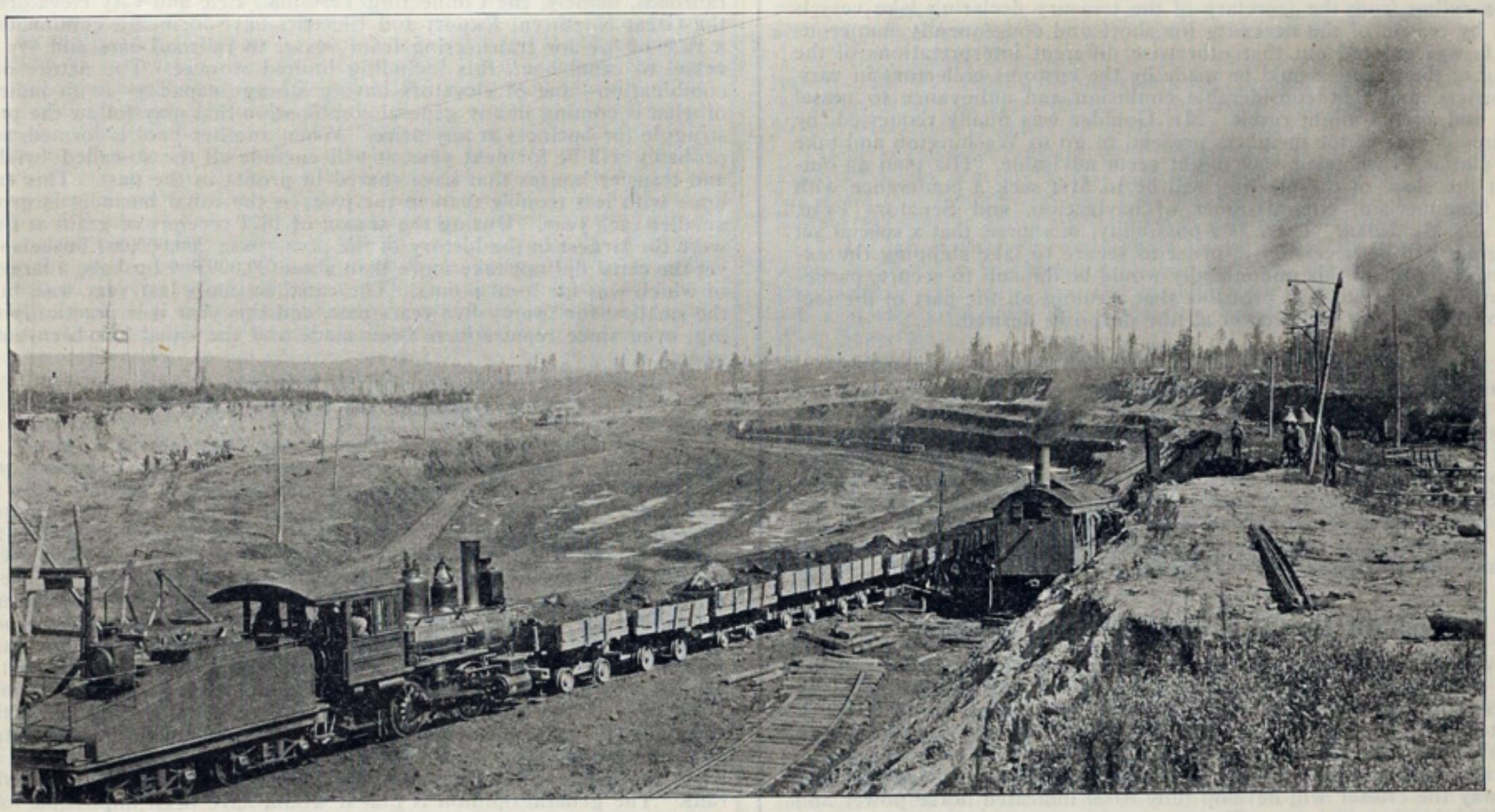
Bids for Cleveland Harbor Work.

Considerable comment has been engendered by the low figures submitted for government work in the harbor at Cleveland, bids for which were opened on Thursday last by Col. Jared A. Smith, United States engineer at Cleveland. The work, which consists of constructing part of the west pier, removing part of the old west pier, dredging and completing the east breakwater, was described more fully and the approximate of required material given in the Review last week. The lowest bid was $450,273.95, that of L. P. & J. A. Smith Co. of Cleveland. The nine bids received were as follows: D. & G. Griese, Cleveland, $616,240.49; I. V. Hoag, Pittsburgh, $818,876.86; John Gill & Sons, Cleveland, $571,648.00; Michael Rabbitt, Toledo, $708,542.55; Carkin, Stickney & Cram, Detroit, $537,229.58; James B. Donnelly, Buffalo, $478,350.33; The L. P. & J. A. Smith Co., Cleveland, $450,273.95; A. F. Chapman & Co., Buffalo, $614,100.00; Jos. J. Churchyard, Buffalo, $541,370.74.

Nicaragua and Erie Canals.

Representative C. A. Chickering of New York has favored the Review with a copy of the bill which he recently introduced in the house of representatives, for sharing with the several states the expense of state canals. The bill provides "that the secretary of the treasury is authorized and directed to pay to the treasurer of each state owning canals used for the transportation of interstate and foreign commerce such proportion of the cost of maintaining such canals as the interstate and foreign commerce bears to the entire commerce carried by said canals, and that a continuing appropriation of $2,000,000 annually, or so much thereof as may be necessary, be appropriated out of any moneys in the treasury not otherwise appropriated."

There has been considerable speculation as to what prompted the bill, but Representative Chickering has so far declined to gratify this curiosity. It has been suggested that the measure is designed to anticipate any Nicaragua canal legislation, and contemplates a scheme on the part of one faction in New York to induce the national government, should it take up the Nicaragua canal project, to also assume control of the Erie canal. There is considerable doubt, however, whether the plan proposed by the present bill is at all practicable, inasmuch as it would be certain to engender infinite trouble with the various states owning small canals. Moreover there is little likelihood that the bill can pass owing to the probable opposition of the congressmen from states wherein there are no canals.



[From 1898 Blue Book of American Shipping.] **Mountain Iron Mine, Mesabi Range—Famous Rockefeller-Carnegie Open Pit Property.**
Bessemer iron ore is dug by steam shovels from this open pit at a lower mining cost than prevails anywhere else in the world. At this mine 240 tons of ore have been mined and placed in cars in ten minutes.

Spanish Iron Mining Industry.

Reports of the probable effect of the Spanish-American war in shutting off, in a measure, the British imports of Spanish ore, together with the possibility that America may be looked to to supply the deficiency, have aroused more or less interest in the history of the Spanish ore trade. The working of the vast deposits of Spanish iron minerals was almost entirely neglected until the demands of England, Belgium and other countries virtually forced it. The ore is found in ten of the Spanish provinces, but principally in the neighborhood of Bilbao in the province of Biscay. The aggregate exports of Spanish ore last year were 6,884,588 tons, as compared with 6,272,588 tons in 1896. Of this Great Britain took 5,091,027 tons of the ore in 1897, as compared with 4,635,959 tons in 1896; Holland, 1,026,727 tons, as compared with 954,413 tons in 1896; Belgium, 224,776 tons, as against 206,731 tons during the preceding year, and France 435,972 tons, compared with 382,548 tons in 1896. It should be stated that the deliveries of ore made to Holland were not absorbed to any extent in that country, but simply passed through en route to Belgium and Germany.

Treasury Ruling Sought by Lake Carriers' Association.

A meeting of the executive committee and Cleveland members of the Lake Carriers' Association was held in Cleveland, Saturday, for the purpose of considering meons for securing the immunty of lake vessels from some of the provisions of the new war revenue measure. The particular clause from which relief is sought is that relating to charter parties, contracts or agreements, and providing for stamp taxes varying from $3 to $10, according to the tonnage of the vessel, on all charters or renewals or transfers of same. Capt. J. J. H. Brown of Buffalo, who opened the discussion of the subject at the meeting, said that he had at first been of the opinion that the law would be operative only in the case of written contracts, but that on further consideration he had arrived at the conclusion that it would apply to verbal agreements as well. Harvey D. Goulder, counsel for the association, expressed positive conviction that it could not possibly be construed to refer to verbal agreements, and in answer to questions he also gave it as his opinion that despite the broad wording of the clause relative to this particular tax, it could not be imposed on letters offering to make contracts, or communications relative thereto, as, for instance, the correspondence between an owner and his agent, but only on documents formally recording a charter. He called attention also to the fact that, generally speaking, the provision in question was favorable to brokers. Mr. Goulder also took the ground that it might be readily seen from the general trend of the bill that it had not been sought to bring the shipping of the great lakes under this proviso at all, and that it had been done was unquestionably an inadvertance. The matter was discussed at some length, and it was the general opinion of the members of the vessel men that it would be highly advisable, if it were possible, to secure a ruling from the secretary of the treasury declaring lake vessels exempt by reason of the necessity for short and consequently numerous trips. It was pointed out that otherwise different interpretations of the meaning of the statute would be made by the customs collectors in various districts, and that considerable confusion and annoyance to vessel owners and agents might result. Mr. Goulder was finally requested, by a unanimous vote of the members present, to go to Washington and take up the matter in whatever way might seem advisable. His plan as outlined at the close of the meeting will be to first seek a conference with E. T. Chamberlain, commissioner of navigation, and Senators Frye, Hanna and McMillan. There is a possibility, of course, that a special act of congress will be necessary in order to secure to lake shipping the exemption desired, and this undoubtedly would be difficult to secure, particularly at this time, but it is probable that a ruling on the part of the secretary of the treasury will answer all the purposes desired.

MR. GOULDER HEARD FROM.

Washington, June 29.—Mr. Goulder, since his arrival here, has had several conferences with Commissioner of Internal Revenue Scott and treasury department officials in general, but has not as yet progressed far enough in the consideration of the matter to make any definite report. Mr. Goulder has prepared a brief, which will be presented to Commissioner Scott. His aim, of course, is to secure a favorable ruling rather than to seek relief in the introduction of any new bill, inasmuch as he has learned that the senate finance committee has adopted a resolution not to report any bills making changes in the war revenue measure at this session.

Rebuilt United States Cruiser Chicago.

New boilers recently placed in the unarmored cruiser Chicago of the United States navy constitute probably the most interesting of the many changes which have been made in that vessel, the reconstruction of which was determined upon three years ago and is now almost completed. On her trial trip in 1894 the Chicago made 15 knots with 5,083 horse power, but it is expected that with the completion of the improvements now under way the cruiser will develop fully 9,000 indicated horse power and make 18½ knots per hour. Changes in this vessel were made at the Brooklyn navy yard. The bureau of steam engineering adopted a combination of the cylindrical Scotch boilers and boilers of the water tube type. The arrangement is such that the engine room adjoins the four Scotch boilers, the blower room is next and then there are six Babcock & Wilcox boilers. When running at high speed the Chicago will be worked under forced draught on the closed stokehold system. The Scotch boilers are made of nickel steel, the sheets being 1 5-16 inches thick and the heads ⅞ inch in thickness. The mean diameter is 13 feet 8½ inches and the length 10½ feet. The three corrugated furnaces are 3 feet 5 inches in diameter and are all fired from the same stokehold. The grate is 6 feet 8 inches in length. The outside measurement of the 417 tubes is 2¼ inches and they are of a thickness of No. 10 Birmingham wire gauge. The heating surface of the tubes is 1,770 square feet; of the furnace, 134 square feet; of the combustion chamber, 166 square feet, and of the tube sheets 66 square feet. The total heating surface is 2,138 2-3 square feet and the grate surface 68.33 square feet. Magnesia covering is used on the boilers. The expectation is that the Scotch boilers will drive the ship at a speed of 13 nautical miles, and that with the water tube boilers the speed rate can be increased to 18½ nautical miles. The six Babcock & Wilcox boilers have a total heating surface of 18,000 square feet, and 360 square feet of grate surface, making the total heating surfaces foot up 26,550 square feet and the grate surfaces 633 square feet. The bunker capacity is 920 tons and the steam pressure 180 pounds per square inch. The twin screw engines are of the horizontal triple expansion type. The cylinders are 33½, 50½ and 76 inches, with 40-inch stroke, the engines making 120 revolutions per minute. The above data is obtained from an illustrated article in the Scientific American. Another feature of the vessel is its equipment with bulkhead doors operated on the "long arm" system.

The Canadian steamer Rosedale, which was badly damaged through stranding on one of the shoals of Lake Ontario last fall, but released through a remarkable wrecking job performed by the Donelleys of Kingston, is again ready to go into commission, and will be a competitor for the limited amount of business that is now offering for the general freighters.

Buffalo Elevator Matters.

Buffalo, N. Y., June 29.—Buffalo's grain trade under the present limited movement by lake is not of special interest to vessel men, but there is another big crop in sight and consequently some speculation as to the future of the elevator business. The elevator capacity here is probably not fully equal to the demands of the lake trade in active periods, especially if we leave out the old-time elevators. They are not to be considered with the modern houses any more than are the horse cars of time gone by to be classed with electric motors. They must be replaced in part by new structures, but not until conditions are more settled than at present. Plans were drawn for another new house on the site of the Sturges elevator when the break up of the pool was announced. This new house will not now be built. Neither is it probable that there will be any effort to make up a new pool of any kind this year. The elevator men were figuring on a basis of ⅝ cent for rail or canal, including ten days' storage, and it is unfortunate that they did not get together. It would be better for all interests if they had succeeded, and the vessel man would probably find that in the end the pool, with its various convenient methods of doing business, would operate to his advantage. Let the vessel man look after shoveling charges and other matters in which he is particularly concerned, but it would seem that the profits of elevators here is not a matter for him to meddle with.

The basis of ⅝c, on which the elevator managers tried to agree, was only a fair rate, and if they had succeeded the vessel interests would probably be relieved in the fall of a great many annoyances that are certain to attend the rush of late shipments. For the time being, all elevators having rail connections or storage capacity, excepting those owned by the railroads, namely, the Connecting Terminal, Erie and City elevators, and the Great Northern, Export and Electric, have formed a combination at a rate of ¼c for transferring from vessel to railroad cars and ⅛c from vessel to canal boat, this including limited storage. The nature of this combination—one of elevators having storage capacity—is an indication of what is coming in any general combination that may follow the present struggle for business at any price. When another pool is formed, as one probably will be for next year, it will exclude all the so-called "wild cat" and transfer houses that have shared in profits in the past. This can be done with less trouble than in the past, as the canal business is growing smaller each year. During the season of 1897 receipts of grain at Buffalo were the largest in the history of the port—over 200,000,000 bushels— and yet the canal did not take more than about 20,000,000 bushels, a large part of which was for local points. The canal business last year was, in fact, the smallest for twenty-five years past, and this year it is practically nothing, even since repairs have been made and the canal has been entirely open.

A Disaster on Ripley's Rock.

Vessel men are inclined to place in the "wonders never cease" class the accident, a few days ago, to the Canadian steamer Tecumseh, which struck on Ripley's rock at Marquette and finally slid off into deep water and sank. The rock, which is in the lower harbor, near the entrance, is in reality an island, and while a number of vessels have at various times grazed the spot, it has never before been the scene of a serious accident and has never been regarded as especially dangerous. When the Tecumseh fetched up on the rock, her crew attempted her release by the use of a line, but the steamer went on harder than ever, breaking her shoe and wrenching the rudder. A bad leak also started, and the captain was unable to secure a diver. As the leak increased the steamer slid part way off the rock and settled head down with her forward deck awash and the stern high in the air. An attempt was then made to hold her with the schooner Georger, but the lines parted. The steamer ultimately listed to port and slid off the rock. The bridge and upper works were torn away when she sank. The officers and crew escaped by means of the yawl and rafts. The general opinion is that it would have been impossible for the vessel to have gone on had she not been light.

New Aids to Navigation Planned.

Commodore F. V. McNair, chairman of the United States light-house board, made a tour of inspection through the great lakes districts last week. Commander Franklin Hanford, U. S. N., inspector of the tenth light-house district, who accompanied Commodore McNair through his district, while in Cleveland had an informal conference with Capt. George P. McKay, chairman of the committee on aids to navigation of the Lake Carriers' Association. Commander Hanford announced his intention of placing three additional Pintsch gas buoys on Lake Erie. One will be located on Gull island, another on Niagara reef and the third at the entrance to Sandsuky harbor, probably in the vicinity of Cedar point. The light-ship at Ballard reef, which has been off to the side of the new channel, will, Commander Hanford announced, be moved to the west bank at the upper end of the channel, and the three buoys, which have been stationed along the channel will be decreased by one, the two being placed in new positions and the third reserved for use elsewhere. The Bar point channel at the mouth of the Detroit river was another subject discussed. The west side of the channel is at present marked by seven red spar buoys, and it was decided that Capt. McKay should write to the Canadian marine department and request that black spar buoys be placed on the west side of the channel.

Compliments from Competent Judges.

Lewis Nixon, well-known ship builder, writes the Review from his ship yard at Elizabethport, N. J.: "I beg to enclose herewith a check for $5 and request that you will send me a copy of the 1898 Blue Book of American Shipping. I have seen the book and think it is a most excellent publication, and one that will be of value to everyone having to do with ships or shipping."

The Brown Hoisting & Conveying Machine Co., one of the biggest concerns of its kind in this country, sends us the following order: "Please deliver to us five copies of the Blue Book of American Shipping for use in England, Germany and Russia.

An Object Lesson for American Croakers.

In the recent disclosure that the merchant marine of Great Britain is in reality declining, there is much food for thought for those statesmen and newspapers in this country who have steadily inveighed against the policy of protection to American shipping, and who have sought to refute all arguments on this score by pointing out the prosperity of British shipping interests. More striking still is the news which comes from the other side that many of the best informed men, both in and out of parliament, are advocating bounties and increased mail subsidies, while others practically endorse this view of the best remedial measures but advocate the introduction of the bounty scheme in conjunction with radical reforms in the matter of the abolishment of light dues, etc. These latter, they argue, have contributed to impairing the mercantile marine by subjecting British vessels to tonnage taxes in the United States and elsewhere, and which are not enforced against vessels from countries which do not impose light dues. The passing of the sailing vessel—a condition that is existent in a greater or less degree all over the world—makes it impossible to attach any especial significance to the disappearance of this class of British tonnage, but it is nevertheless interesting to note that in France in 1896 the tonnage of sailing vessels under construction was more than two and a half times greater than in England, and in 1897 over 500,000 tons of English sailing tonnage disappeared from the register, a loss which exceeded the net decrease of all the other maritime nations in the world combined. The defender of England's maritime prestige will doubtless argue that the disappearance of the sailing vessel naturally entails a corresponding decrease in the number of seamen engaged, yet even these circumstances would hardly seem to warrant a decrease of 6,570 in the seven years ending with the close of 1897. Moreover, fully five-sixths of this decrease was of seamen under thirty years of age. In the matter of steamship statistics, we get at data more tangible but fully as surprising in the showing made. For instance, the net increase in steamship tonnage of 1897 over 1896 was practically nil. The gross increase was about 8,600 tons, but the loss by wreck and sale formed an aggregate almost sufficient to counterbalance the increase. Additional weight would seem to be given to the arguments in favor of relief from the light dues and other evils by the increasing inclination on the part of British owners to transfer their vessels to foreign flags. According to a compilation just made by the board of trade the transfers from the British flag during the past year aggregated 387,794 tons, an increase of 48,519 tons over the year previous. These figures are not supposed to include vessels built to foreign order, but are a deduction from tonnage of bona fide British ownership. The point, however, which must most strongly impress the American student of the situation is the strong sentiment in favor of the employment in the effort at revival of the very means which, when employed in America, was formerly the butt of much seemingly ill-natured scoffing on the part of British ship builders, a tendency which is even yet manifest to an extent on the part of free trade advocates in this country.

Is There a Shoal on the Bernard Ranges?

Leo Bernard, the owner of the Birch point ranges at the entrance to Lake Superior, has come forward with a vigorous defense of existing conditions in that vicinity, the same having been prompted by the statement of Capt. Mulholland of the steamer Alva in the last issue of the Review, that he had discovered a shoal on the ranges. Mr. Bernard writes: "I was invited to go with the engineering party to locate the place. We cruised about for a whole day and could not find it. I am of the opinion that Capt. Mulholland must be mistaken as to the location, as he reported in the canal office here that he was a quarter of a mile to the northward of the ranges and 3 miles west of Gros Cap. If such be the facts, 3 miles west of Gros Cap and a quarter of a mile to the northward is a long way off the ranges and well into the lake. Directly after the report was made with regard to the Alva, the steamer Frontenac, drawing 17 feet 3 inches, and the steamer George W. Roby, drawing 17 feet 10 inches, came down on the ranges and did not touch at all. I have been very careful in locating the north channel and have sounded for 700 feet and have found no less than 6 to 10 fathoms of water across the channel. I have also sounded westward past Iroquois point. All steamers, large and small, have been using these ranges ever since I located this channel, and this has been especially true of heavy-laden steamers."

That Capt. Mulholland is not unsupported in his assertions, however, is proven by a letter just received from Capt. William Ames of the steamer La Salle. Capt. Ames writes: "On our trip down from Marquette on June 24, while about a mile and a half above Point Iroquois and a little to the eastward of the north range, we struck heavily. We were drawing 17 feet 3 inches of water. In my opinion something should be done at an early date to mark this obstruction."

Further confirmation of the original report is afforded by R. C. Pringle, captain of the steamer Italia, who writes as follows: "On coming down Lake Superior on June 24, about 8 o'clock a. m., when on a line between Point Iroquois and Gros Cap, and a trifle to the east of Bernard's range, the Italia, going at full speed, and drawing 17 feet 7 inches, struck on a shoal quite heavily and apparently on a sandy bottom."

Summary from the New Naval Register.

An exceptionally interesting number of the official register of the navy will be issued on July 1. It will show that the navy, exclusive of the marine corps, has 2,630 commissioned and warrant officers and naval cadets on the roll in active service. The regular navy, according to the register, is now composed of eleven ships of the first class, eighteen of the second class, forty-three of the third class, six of the fourth class, thirty-five torpedo boats (building or authorized), twelve tugs, six sailing vessels, five receiving ships, twelve unserviceable vessels and thirty-three vessels of all rates other than torpedo boats under construction and authorized. The auxiliary navy is composed of thirty-six cruisers and yachts, thirty-two steamers and colliers, twenty-five tugs, fifteen revenue cutters, four light-house tenders, and two fish commission steamers. The United States thus has a total of 295 regular and auxiliary vessels, exclusive of the battleships building or authorized and the monitors authorized.

Around the Lakes.

O. W. Blodgett of Bay City has purchased the schooner C. J. Fillmore from Capt. John Mitchell for $5,000.

The new elevator of the Canada Atlantic Railway Co. at Coteau Landing, Ont., has been completed. A freight shed 600 feet in length will shortly be built adjoining it.

A 300-foot dock will be built at the new mill site on Grosse point, Portage lake, by the Franklin Mining Co. The Arcadian Copper Co. has secured a mill site adjoining the Franklin property.

C. O. Allibone, light-house inspector of the ninth district, writes that he will immediately make a thorough search for the shoal discovered off Point Peninsula by Capt. William Jamieson of the steamer Minneapolis.

Thomas Isabell has issued an announcement to vessel owners that he has established a wrecking outfit at Sturgeon Bay, Wis., and is prepared to do wrecking work of any description. He has a tug suited to the work.

O. S. Richardson of Chicago says that in his opinion the total receipts of coal for the three months of navigation are fully up to those of last year. He is confident that the 20-cent rate will prevail throughout almost the entire season.

A report from Washington is to the effect that Supt. Frank E. Kirby of the Detroit Dry Dock Co. has been made consulting expert by the war department for the purpose of determining the fitness of vessels offered for transport service.

At a meeting of the Lake Lumber Carriers' Association last week action was taken making modifications of rates by cutting off some extra charges formerly insisted upon, and also abolishing the requirement of accepting charters only from authorized brokers.

C. O. Allibone, inspector of the ninth light-house district, has issued a notice to the effect that a 30-foot spar buoy, painted black, has been established in 20 feet of water on the northeasterly end of a small shoal with 15 feet least depth of water off Manitowoc, Wis.

General Passenger Agent W. F. Herman of the Cleveland & Buffalo Transit Co. has sent out a neat notice announcing that the City of Erie has gone into commission and that the service between Cleveland and Buffalo will now be performed in 9 hours running time, distance 183 miles.

J. J. Linn of Port Huron, representative of the General Electric Co., states that his firm has installed electric plants in the revenue cutters Algonquin and Onondaga and the new Bessemer vessel John Fritz, and will also similarly equip the two other Rockefeller vessels building at West Superior.

Numerous improvements are said to be in contemplation by the American Steel Barge Co. of West Superior, Wis. Among the improvements projected is an enlargement of the slips, the erection of a new power house 80 by 40 feet in size, and the construction of a second dry dock, which has been planned for some time past.

Major W. B. Stockman, formerly in charge of the weather bureau office at Cleveland, will, according to dispatches from Washington, be selected to take charge of the observation service which the government will establish in the West Indies, Mexico, Central America, etc. It is stated that Major Stockman and twenty-five assistants will sail for Santiago, July 7.

It is stated that the Standard Oil Co.'s tank barge No. 81 is to be transferred from the lakes to the Atlantic coast. Her fresh water papers have been surrendered and an ocean registry taken out. According to rumor, the vessel is to be sold to the United States government, but it was understood when she was built that she would go to the coast, so that there may be nothing in the report.

The United States dredge, operating under the direction of Col. Jared A. Smith, which is now dredging the channel at Fairport, has for some time past been engaged in the work of dredging at Lake Erie ports, a work which will be continued for some time yet. The channels at the ports of Conneaut and Ashtabula have also been dredged to a depth of 19 or 20 feet, and as soon as the work at Fairport is completed the dredge will proceed to Munro, Mich., to undertake the raising of an old dredge which was sunk in the harbor there about a year ago. There is also considerable dredging work to be done at Sandusky. The channel of deep water there is narrow and winding, and groundings are frequent. Moreover, the action of the propeller wheel in the efforts of a steamer to get off frequently contributes to the formation of a bar directly across the channel. There is also need for some work at Cleveland, where a mud shoal is forming in the outer harbor, but all funds for work at Cleveland are so tied up under definite specifications that the matter will have to be passed over.

No Encroachments in the Coastwise Trade.

That the friends of American shipping in congress intend to maintain the old policy of protection in the coastwise trade was demonstrated by the manner in which a hostile bill was treated by the house of representative committee on merchant marine and fisheries a few days ago. In reporting back the bill the committee said:

"This bill calls for the suspension of laws which confine coastwise trade to American bottoms. Protection against foreign bottoms in competing for our coastwise trade has always been an unchangeable policy of this government. Had it not been for this immunity from foreign competition our merchant marine would have been driven from the ocean years ago. The exigencies of the present war with Spain do not warrant the abrogation of our present coastwise laws. The coastwise commerce of the United States is as safe today as in time of peace, which is evidenced by the fact that the steamship companies are running their lines without interruption, except such lines as have sold or chartered their steamers to the government. The effect of this bill, if enacted, would be to create fear and distrust, followed by the loss of business in our coastwise commerce. The committee therefore recommend that the bill do not pass."

One-Fare Sunday Excursions.—Tickets are on sale from all stations on Nickel Plate road. 65, June 30

MARINE REVIEW

DEVOTED TO LAKE MARINE AND KINDRED INTERESTS.

Published every Thursday at No. 409 Perry-Payne building, Cleveland, Ohio, by John M. Mulrooney and F. M. Barton.

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The books of the United States treasury department on June 30, 1897, contained the names of 3,230 vessels, of 1,410,102.60 gross tons register in the lake trade. The number of steam vessels of 1,000 gross tons, and over that amount, on the lakes on June 30, 1897, was 399, and their aggregate gross tonnage 769,366.68; the number of vessels of this class owned in all other parts of the country on the same date was 314, and their tonnage 685,709.07, so that more than half of the best steamships in all the United States are owned on the lakes. The classification of the entire lake fleet on June 30, 1897, was as follows.

	Number.	Gross Tonnage.
Steam vessels	1,775	977,235.45
Sailing vessels and barges	1,094	394,888.87
Canal boats	361	37,978.28
Total	3,230	1,410,102.60

The gross registered tonnage of the vessels built on the lakes during the past five years, according to the reports of the United States commissioner of navigation, is as follows:

Year ending June 30, 1893	175	99,271.24
" " " 1894	106	41,984.61
" " " 1895	93	36,352.70
" " " 1896	117	108,782.38
" " " 1897	120	116,936.98
Total	611	403,327.91

ST. MARY'S FALLS AND SUEZ CANAL TRAFFIC. (From Official Reports of Canal Officers.)

	St. Mary's Falls Canals.			Suez Canal.		
	1897	1896	1895	1897	1896	1895
Number of vessel passages	17,171	18,615	17,956	2,986	3,409	3,434
Tonnage, net registered	17,619,933	17,249,418	16,806,781	7,899,374	8,560,284	8,448,383
Days of navigation	234	232	231	365	365	365

Not a little discussion has been engendered in maritime circles, both in this country and abroad, by the decision of Russia to follow the example of the United States with relation to coasting trade, as exemplified by the issuance of a decree to the effect that during and after 1900 no vessel flying a foreign flag shall be permitted to engage in the coasting trade of the country. Resolutions have also been passed that the Russian mercantile marine in the Baltic and Black seas shall be largely increased and looking to the establishment of several new steamship companies. The shipping industry of Denmark will be most largely affected by these measures, inasmuch as a great share of the coasting trade to and from the Russian ports on the Baltic is carried on in Danish vessels. It is also expected that a number of German steamships will apply for permission to sail under the Russian flag. Among marine men generally there are many expressions of doubt as to whether the Russian mercantile marine will have attained in 1900 a development sufficient to undertake the entire home and coasting trade of the Black and Baltic seas.

Legislation designed to add to the safety of navigation as regards both steam and sail vessels has just been introduced in the French chamber of deputies and has already met with the approval of the superior council of the mercantile marine. The new bills provide, first, that no vessel shall proceed to sea until she has been thoroughly examined by a survey committee. The same committee will afterward verify the draught of water, fix the number of passengers to be carried, and deliver a certificate of seaworthiness. The vessels must also be inspected in an unladen condition at least once a year, and in the interval on all occasions when they may have received serious damage or when any particular changes may have been made in their build or outfit. Vessels engaged in oversea or coasting must be inspected in dry dock at least once in three years if built of wood, and once every two years if built of iron or steel. The details relative to inspections and the survey fee will be fixed by decree, as will also the rules and regulations relating to the maximum load line, the number of passengers carried, life-saving apparatus, etc. Violations of the law will be punishable by fines varying from $10 to $800.

Trade publications are taking a slightly more gloomy view of the outlook in the iron industry. The Iron Age says: "While encouraging reports continue to come from the west, where conditions are exceptionally favorable, the business in the iron trade in the country as a whole is not moving in the right direction. While there are exceptions, the general statement may be made that old orders are being disposed of at a faster rate than they are being replaced by new work. In some branches capacity has been engaged for so far ahead that this tendency is viewed with indifference. In others makers are willing to run at a slackened rate during the hottest months. But with due allowance for these facts, it must be admitted that a feeling of uneasiness is creeping into the trade. More mercurial than other branches of the industry, the pig iron trade is exhibiting this tendency more than others. It is a marvel how the industry is bearing the strain of low values."

In connection with the discussion on the annexation of Hawaii, the bureau of steam engineering of the navy department has compiled some interesting statistics, designed to show the importance of the islands as a coaling station. One statement from the bureau shows that vessels like the Iowa, Massachusetts and Charleston have barely enough bunker capacity for a trip from San Francisco to Honolulu and return. Fighting ships like the Monadnock and Monterey have to pile coal on deck in order to reach Honolulu. None of the different types of vessels in our navy can carry enough coal to participate in an engagement at Honolulu of any considerable duration and then return to San Francisco. In case the navy could not coal at Honolulu the United States would be absolutely helpless in Pacific waters.

A source of considerable inconvenience, if not annoyance, is likely to be remedied should a bill introduced by Senator Platt of New York in the senate become a law. It amends the laws regarding the inspection of passenger steamships, so that vessels belonging to countries having inspection laws approximating those of the United States, whose certificates have not yet expired at the time of arrival, shall be subjected to no other inspection than that necessary to satisfy the local inspectors that the condition of the vessel, her boilers and life-saving equipment are as stated in the certificates. This provision is dependent, however, on the extension of similar privileges by other nations.

A transformation will ere long be effected in the case of the United States cruisers Atlanta and Chicago. The masts, spars and sails on both vessels will be discarded, and in their place there will be substituted single fighting tops, mounting quick-fire guns. The Petrel still retains some sail power, and a number of new gunboats of the Annapolis class are also provided with sail, but with the disappearance of sail from the Chicago and the stripping of the Newark, none of the large ships of the new navy will hereafter be seen with rigging.

Messrs. Yarrow & Co. are to build for the city of London a fire boat 100 feet in length, 18 feet beam and 20 inches draught. The vessel will have a speed of 10 knots and be propelled by twin screw compound condensing engines developing 180 horse power and drawing steam from a pair of water tube boilers in which steam can be raised from cold water in 15 minutes. The boat will be supplied with four fire pumps, each with a capacity of 500 gallons per minute.

A postponement has been necessary in the date of the return sailing of the steamship Kaiser Friedrich, the new North German Lloyd liner now on her maiden trip to this country. She will return to Bremen on one set of engines, and fully five weeks will be required for repairs. The faces of the slides to the circulating pumps were worn down on the voyage over and will have to be replaced. The entire machinery was also wrenched.

There is no doubt that the British navy will retain its pre-eminent position if the plans of Lord Charles Beresford are followed. He recently advocated the immediate construction of twenty-one battleships, twenty-four cruisers, fifty torpedo boat destroyers and eight steam colliers. To accomplish this he is willing to have expended upwards of $200,000,000.

It is understood that the advertisements calling for bids on the four new coast defense monitors, provided for by the recent naval appropriation bill, are withheld owing to a difference of opinion among bureau chiefs as to the turrets. One element favors a vertical turret, while another, headed by the chief constructor, insists that the inclined turret form be adopted.

"It is a matter of considerable satisfaction to us to know that we have now no unadjusted unpaid claims on account of 1897 hull disasters for which we have received the bills," says Geo. L. McCurdy of the well-known Chicago insurance syndicate. "There may be some minor claims yet to come in, but we may safely consider our obligations are practically liquidated."

In an article in the current issue, the editor of the Shipping World, London, says: "In giving practical effect to ideas it must, I think, be conceded that Americans are usually ahead of Britishers. The authorities at Tacoma, Wash., for instance, have appointed Miss May Fuller harbormistress. She is the only woman in the world holding such an office."

The large floating dock recently constructed in England for the Vulcan company of Stettin, Germany, and mention of which was recently made in the Review, was experimentally sunk and successfully raised in 68 minutes. It is claimed that the United States government made overtures to purchase the dock early in the war but failed.

The report that the Maryland Steel Co. will immediately resume the operation of its ship yard at Sparrows Point, Md., appears to be unauthorized. President F. W. Ward of the Maryland company informs the Review that as yet no decisive action has been taken with regard to the resumption of work at the ship building plant.

Appropriations for naval purposes by the leading maritime nations during twelve months of 1896-97 were as follows: Great Britain, $109,000,000; France, $59,000,000; Japan, $32,000,000; Germany, $22,000,000; and Italy, $20,000,000.

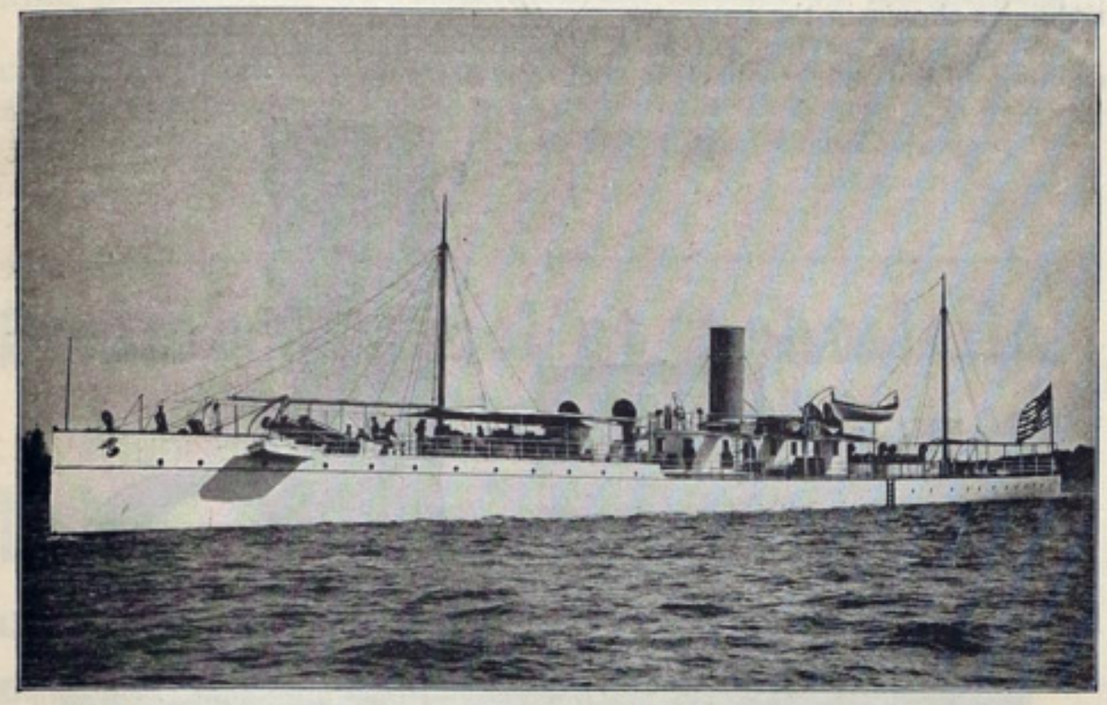
There is little likelihood that Senator Frye's bill for the establishment of a department of commerce and industry will receive consideration at this session of congress, owing to the pressure of other important subjects.

The Japanese cruiser Kasagi, built by the Cramps, on her trial trip a few days ago made 23 knots, one-half knot more than her contract speed. Under ordinary draught the engines made from 140 to 150 revolutions.

The Chilian cruiser O'Higgins, which the United States government tried in vain to purchase at the commencement of the war, made 22 knots on her official trial recently.

Success of the Vesuvius.

The dynamite cruiser Vesuvius, a vessel unique in the United States navy, unique indeed in the world, has ever since the inception of the idea was made public been an object of no inconsiderable interest to naval officers all over the world, and this interest has naturally been materially enhanced by the recent demonstration of the effectiveness of the vessel for the purposes for which it was designed. The Vesuvius is 246 feet over all; displacement, 811 tons; and was built by Cramp & Sons. On her trial trip she attained a speed of 21.65 knots, but her cruising range is short, inasmuch as her coal bunkers have a capacity of only 135 tons. The armament of the vessel consists of three 15-inch pneumatic guns.



They are built into the ship; their muzzles are carried forward and project above the deck near the bow at an elevation of 18 degrees. The guns are 54 feet long, made of thin cast iron and unrifled. The projectiles are discharged by means of compressed air. The firing reservoir contains 210 cubic feet of air at 1,000 pounds pressure, and the storage reservoir 420 cubic feet at 2,000 pounds pressure. The vessel carries thirty torpedoes. In firing the guns have a fixed elevation, their range being determined by a variation of air pressure.

Laws for American Seamen.

There seems to be a possibility that the White bill, to amend the laws relating to American seamen, for the protection of such seamen, and to promote commerce, may, after all, at least pass the senate during this session of congress. The senate committee on commerce has been at work upon the measure for weeks past, and have now finally announced their readiness to report favorably thereon, concurrence in the matter having been unanimous. Chairman Frye is hopeful that he will be able to obtain action on the bill before final adjournment is taken. The bill is designed to improve the condition of sailors both on shipboard and ashore, and to that end almost every one of the revised statutes relative to the treatment of sailors is amended to a greater or less extent. In the first place, the new bill provides for the abolition of all corporal punishment by the master of a vessel; precludes the possibility of punishment by imprisonment for desertion and other offenses, if committed in a port of the United States; makes a reduction of 50 per cent. in the amount of wages that may be signed over to boarding house keepers, and finally makes some improvement in the class of provisions which must be furnished the crew during a voyage.

Steaming Radius of Naval Vessels.

Strategists and marine men generally, who have been discussing the lessons of the present war, have devoted much of their argument to the limited speed of almost all of the United States naval vessels, and the significance, if any, that this may have in connection with the, in some cases, rather limited coal bunker capacity. In this connection the engineer in chief of the United States navy has prepared a table showing the coal capacity and steaming radius of first-class battleships and cruisers of the first rate. The table is as follows:

Name.	Type.	Coal bunker capacity.	Steaming radius on this coal at most economic rate.	Steaming radius on this coal at maximum speed with forced draft.
		Tons.	*Knots.*	*Knots.*
Iowa	First-class battleship	1,790	*a*6,000	*b*2,355
Indiana	do	1,550	4,805	*b*2,671
Massachusetts	do	1,560	4,797	*b*2,265
Oregon	do	1,540	5,205	*c*2,448
Brooklyn	Armored cruiser	1,300	4,342	*b*1,404
New York	do	1,200	4,486	*b*1,344
Columbia	Protected cruiser	1,600	*a*7,000	*b*1,840
Minneapolis	do	1,520	6,824	*b*1,565
Olympia	do	1,100	6,105	*c*1,408

a Estimated.
b From official trial, actual figures.
c From official trial on basis of 2.4 pounds of coal per indicated horsepower.

The same old trio on a bran new schedule.—There's been no more added—three express trains in each direction were considered sufficient—but it was deemed desirable to make faster running time with some of our trains, so the new schedule of the Nickel Plate road was put into effect June 26. 121, July 12

Speed of Our New Battleships.

The indications are that unless some entirely unexpected developments interfere the original plans for our new battleships, which contemplate a speed of 16 knots, will be followed, despite the sudden outcry for speedier naval vessels which has arisen as the result of certain developments of the present war. The naval authorities admit that the type of war vessel proposed is weak in speed qualities, but assert, apparently with some foundation, that in other respects it has absolutely no superior. It is explained, moreover, that the failure to provide for an increased speed is due largely to a desire on the part of the secretary of the navy to facilitate the work of construction, it being pointed out that to undertake original designs would necessarily entail a delay of not less than six months. This determination was not, however, arrived at without an argument in the construction board. Commodore Melville, engineer in chief, stood out for a decided increase, claiming that if quadruple expansion engines and tubular boilers were introduced the vessels might readily attain 18 knots. The opposition of the other members of the board was due to the additional machinery space required.

Contracts in Lake Ship Yards.

H. M. Bean will build a five-masted schooner at Camden, Me.

Glore & Sons of New York have just completed three yacht tenders.

Dunn & Eliott of Rockland, Me., have laid the keel for a 1,100-ton vessel.

H. C. Doman of Oshkosh, Wis., is building a naphtha launch for Charles Schreiber.

The treasury department has invited bids for building a new boiler for the revenue cutter Morrill.

Lewis Nixon of the Crescent Ship Yard, Elizabethport, N. J., has secured the contract for the $150,000 coast survey vessel for the United States government.

W. J. Starr has awarded to W. L. Dunphy of Eau Claire, Wis., the contract for a yacht 60 feet long by 14 feet beam. She will be launched within a couple of months.

The steel tug Valley Forge, building for the Philadelphia & Reading Transportation Co. by the Harlan & Hollingsworth Co. of Wilmington, Del., will be ready for launching within a few days.

Capt. Frank R. Tobin of St. Louis is building a 50-foot steam launch to be called the Myrtle Corey. The Curtis & Co. Manufacturing Co. will build the machinery and the John O'Brien Boiler Co. the boilers.

Superintendent Kimball of the United States life-saving service will open bids July 21 for supplies of various kinds for the service during the year ending June 30, 1899. Full particulars may be had upon application to the Washington office of the life-saving bureau.

A contract for harbor improvements at Cleveland involving an expenditure of $450,273.95 has been secured from the war department by the L. P. & J. A. Smith Co. of Cleveland. The work includes the construction of a new pier, superstructure for a long line of new breakwater, dredging, etc.

The Harlan & Hollingsworth Co. of Wilmington, Del., has secured the contract for a new steamer for the Merchants' & Miners' Transportation Co. She will be 270 feet long, 42 feet beam and 26 feet depth of hold. The vessel will register 1,900 tons net, 2,500 tons gross. The triple expansion engines will have cylinders measuring 28, 45 and 72 inches.

The Gas Engine & Power Co. and Seabury Co., Consolidated, have secured from Collis P. Huntington the contract for a 42-foot naphtha launch of 12 horse power motor. The company a few days ago launched the steam yacht Margaret, 103 feet over all, 15 feet beam and 5 feet draught, building for John Rutherford of New York. She has a Seabury triple expansion engine, with cylinders 8¼, 14 and 23 inches in diameter by 12-inch stroke.

Reports from Bath, Me., indicate considerable activity in the various yards at that place. At William Rogers' yard two large coal barges are under construction for the Atlantic Transportation Co., and work will ere long be commenced on two others for the same firm. Kelley, Spear & Co., who are building two barges for the Staples Coal Co. of Taunton, Mass., have just secured the contract for two others, and are rushing work on a four-masted schooner, 158 feet long, for Edward Smith & Co. of Brooklyn. The New England Co. is building a four-masted schooner for Capt. Stevens of Clinton, Conn. At the Bath Iron Works the steel schooner Winnifred is almost ready for launching. N. T. Palmer has commenced work on a five-masted schooner, and at the Deering yard the keel will soon be laid for a four-masted schooner.

Charts of Georgian bay will be required by most of the captains of vessels of the medium class during the present season, on account of the increasing traffic in that direction. The Marine Review has in stock at all times the best charts of Georgian bay that are made.

Delivery of a floating grain elevator of great size to the International Elevator Co. of New York has just been made by her builders, John H. Dialogue & Son of Camden, N. J. The elevator, which is named the Isis, will be used to deliver grain to the large ocean steamers. The hull, decks and towers of this elevator are entirely of steel, which is a decided departure from the usual method of constructing elevators. The tower is 85 feet high, and its capacity is 12,000 bushels of grain per hour. The hull is fitted up with a single screw-propeller of 350 horse power. An engine of 250 horse power is used for the elevator and its mill machinery, which is of the latest and best type.

Low rates to Chautauqua.—The Nickel Plate road will sell thirty-day limit excursion tickets July 8. Inquire of agents. 115, July 7

The Nickel Plate road sells one fare for the round trip tickets July 2d, 3d and 4th. Returning July 5th. 104, July 2.

Trade Notes.

The Hyde Windlass Co. of Bath, Me., is nearly doubling the capacity of its plant by the erection of a large brick building, the iron frames for which are already in position.

The Ingersoll-Sergeant Drill Co. has let the contract for the erection of a new foundry building, 80 by 200 feet, at Eaton, Pa. A warehouse 100 by 300 feet will also be built.

The entire plant of the St. Louis Sectional Dock Co. has been purchased by the Wiggins Ferry Co. and will be operated more extensively than ever before. The wreck of the City of Vicksburg will probably be the first boat to go on the ways.

A revision of the prevailing prices on phosphor-bronze, a subject of natural interest to many marine men, is contained in a neat price list just issued by the Phosphor-Bronze Smelting Co. of Philadelphia. The catalogue is numbered 13, but, judging from the prices quoted, it cannot be said to be unlucky for the firm's customers.

The Shelby Steel Tube Co. of Cleveland, which has lately been securing large orders from the navy department for seamless, cold drawn steel tubing, especially for torpedo boat boilers, has just issued a catalogue that describes most admirably their goods, even down to the process of manufacture. The machinery of the Standard Drawn Steel Works of Cuyahoga Falls, O., which was purchased recently by the Shelby company, is being removed to Greenville, Pa., and Shelby, O.

The number of manufacturing interests that are in one way or another connected with and in part dependent upon patronage from ships, is remarkable. The Born Steel Range Co. of Cleveland, manufacturers of a high-class range and other utensils extensively used in the ship's galley, is constructing a factory in Cleveland that is 120 by 656 feet. The new plant will be ready for occupancy about Sept. 1. A large part of this company's business comes from ships not only on the lakes but in all parts of the United States, and of late they have been developing quite an export trade.

Some very instructive matter is presented in a decidedly attractive form in a little volume entitled "Safely Thro' the Waters," which has just come from press. According to the publisher, it is "not a story but a collection of facts from well-known sources, of interest to all who plow the deep." The "well-known sources" are the leading marine papers of the country, the list being headed, of course, by the Review, while the facts are relative to the merits of the Pintsch gas buoys supplied by the Safety Car Heating & Lighting Co. of New York, whose merits, already so well known, are emphasized in a new way.

British ship builders and ship owners are following the lead of the navy in the adoption of water tube boilers for sea-going merchant ships of the largest kind, and the Babcock & Wilcox Co., with a boiler developed in this country, is getting more than its full share of orders. Boilers of this type are being fitted in the steamers Otto and Truro, building by the Caledon Ship Building Co., Dundee, for Messrs. Thos. Wilson, Sons & Co., Hull., and which, with the refitting of the steamer Rollo, makes a total of seven Wilson liners thus equipped. A French builder has just ordered eight of these boilers. Messrs. Wm. Simons & Co., Renfrew, Scotland, have just placed two of the boilers on a sand-pump dredger for the New South Wales government; four more have been placed in H. M. S. Sheldrake, and in addition orders for boilers of this type have been received for a stern-wheeler for the Russian government, for a corvette for the Norwegian government, and for one of Messrs. Cook's Nile paddle steamers.

A portable pneumatic rammer, which is likely to revolutionize loam moulding and to a considerable extent large green sand work as well, has been invented by Joseph C. Cramp of the William Cramp & Sons' Ship & Engine Building Co. The machine consists of two vertical cylinders, held apart by stanchions, containing pistons driven either by steam or compressed air, which is regulated by a Corliss valve. The size of the cylinder is 3½ inches, the length of stroke is 4½ inches, and with an air pressure of 35 pounds per square inch at the piston. It strikes 200 blows per minute, each blow with the butt rammer head covering an area equal to seven times the area of an ordinary hand rammer. It is suspended from a turnbuckle, which is attached to a trolley on a movable crane, so as to enable it to move with perfect ease to any portion of the pit to be rammed. Power is supplied through a flexible hose tapped from the main pipe, running the entire length of the foundry. The crane is portable, and can be shifted to any column, thereby covering any spot in the shop.

Stocks of Grain at Lake Ports.

The following table, prepared from reports of the Chicago board of trade, shows the stocks of wheat and corn in store in regular elevators at the principal points of accumulation on the lakes, June 25, 1898:

	Wheat, bushels.	Corn, bushels.
Chicago	795,000	8,386,000
Duluth	3,624,000	2,370,000
Milwaukee	123,000	.....
Detroit	29,000	122,000
Toledo	112,000	805,000
Buffalo	869,000	1,803,000
	5,552,000	13,486,000

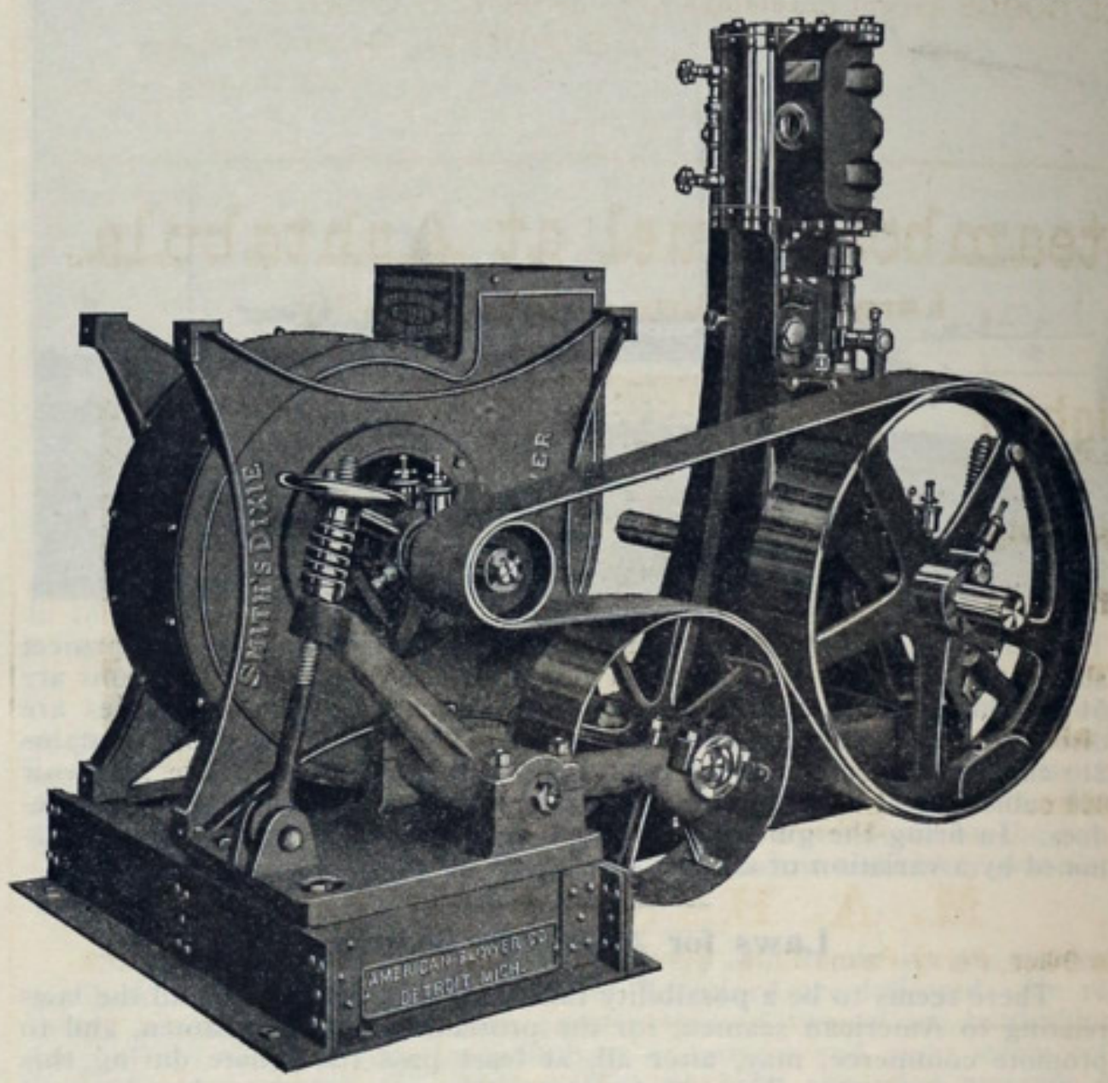
If there were any assurance of an early termination of the war, the revival of exports on a considerable scale, added to the rapid development of home enterprise, would readily cure the dragging tendency now apparent throughout the iron market. For the most part, however, buyer and seller are proceeding on the belief that present conditions are a fair type of the next two months.—Iron Trade Review.

The unexcelled dining car service on the Nickel Plate road.—Beginning Monday, June 20th, breakfast will be served a la carte, on dining cars of Nickel Plate road. 85, July 14

Blower and Engine Outfit for Tugs.

The advantages of automatic stokers and forced draught are so many and becoming so generally recognized that their application is reaching into almost every field where steam is used for either power or heat. One of the newest applications is on harbor and lake tugs. To install such devices on boats, especially on small harbor tugs, they must be compactly designed, as space is at a premium. We illustrate one of the most compact blower and engine outfits for this particular work that has come to our notice. Between the centers of the blower and engine pulleys there is but 3 feet. The length over all is less than 6 feet, and width 3 feet. It is possible to get this short drive by the flexible transmitter or belt tightener shown in the cut.

Besides the saving in space, this device also keeps the belt from running off the pulleys when the boat rolls in a rough sea. This one point



has been a great source of annoyance with belt driven blowers heretofore, but it is entirely overcome by this arrangement. The blower engine and transmitter are mounted on a steel Z bar base, insuring the greatest rigidity. The introduction of the transmitter affords a perfect belt contact with the pulleys, the contact on the driving pulley being 260 degrees, and on the blower pulley 188 degrees. There is positively no slipping of the belt up to the maximum speed. As the belt stretches, the slack is easily taken up by the hand wheel adjustment and compensating spring. The engine is a 6 by 6 automatic high speed engine, designed to run at 500 revolutions per minute, at which speed it will drive the blower 2,100 revolutions per minute. The governor will maintain a constant speed whether the air is "all on" or "all off." This apparatus was built by the American Blower Co. of Detroit.

On Sundays parties of five or more can go anywhere and return within one hundred miles on the Nickel Plate road for $1.00 for the round trip. Ask agents. 107, July 31.

Fourth of July excursions July 2d, 3d and 4th at one fare, via Nickel Plate road. 106, July 2.

TREASURY Department, Office of General Superintendent U. S. Life-Saving Service, Washington, D. C., June 25, 1898. Sealed proposals will be received at this office until 2 o'clock p. m. of Thursday the 21st day of July, 1898, for furnishing supplies required for use of the Life-Saving Service for the fiscal year ending June 30, 1899; the supplies to be delivered at such points in New York City, Grand Haven, Mich., and San Francisco, Cal., as may be required, and in the quantities named in the specifications. The supplies needed consist of Beds and Bedding; Blocks and Sheaves; Cordage; Crockery; Furniture; Hardware; Lamps, Lanterns, etc.; Lumber; Medicines, etc.; Paints, Oils, etc.; Ship Chandlery; Stoves, etc.; Tools, and Miscellaneous articles; all of which are enumerated in the specifications attached to the form of bid, etc., which may be obtained upon application to this office, or to the Inspector of Life-Saving Stations, 24 State Street, New York City; Superintendent Eleventh Life-Saving District, Grand Haven, Mich.; and Superintendent Twelfth Life-Saving District, New Appraisers' Stores, San Francisco, Cal. Envelopes containing proposals should be addressed to the "General Superintendent U. S. Life-Saving Service, Washington, D. C.," and marked on the outside "Proposal for Annual Supplies." The right is reserved to reject any or all bids, and to waive defects, if deemed for the interests of the Government. S. I. Kimball, General Superintendent. July 7.

The Bessemer Steamship Company

Solicits Catalogues, Prices and Discounts from manufacturers and wholesale dealers in Ship Machinery, Brass Goods, Rope, Paints, Asbestos, Packing, Hose, Furniture, Piping, Glass and Crockery, Tinware, Ranges, Carpeting, Bedding, Life-preservers, Rafts and Boats, Engineers' Supplies and Tools, Carpenters' Tools, Electric Supplies, Lamps, Grate Bars, Castings, etc., etc., etc.

ALSO QUOTATIONS from Market men and Grocers on the Lakes for Provisions and Meat, best quality only.

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Steamboat Fuel at Ashtabula.

Large Supplies of Best Quality.

Lighter Carrying Different Grades at all Times.

Fuel scow with elevators and discharging spouts. Storage of 650 tons. Discharges 150 tons an hour into steamers while unloading cargo.

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WORKS AT NEWPORT NEWS, VA.
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Equipped with a Simpson's Basin Dry Dock capable of docking a vessel 600 feet long, drawing 25 feet of water, at any stage of the tide. Repairs made promptly and at reasonable rates.

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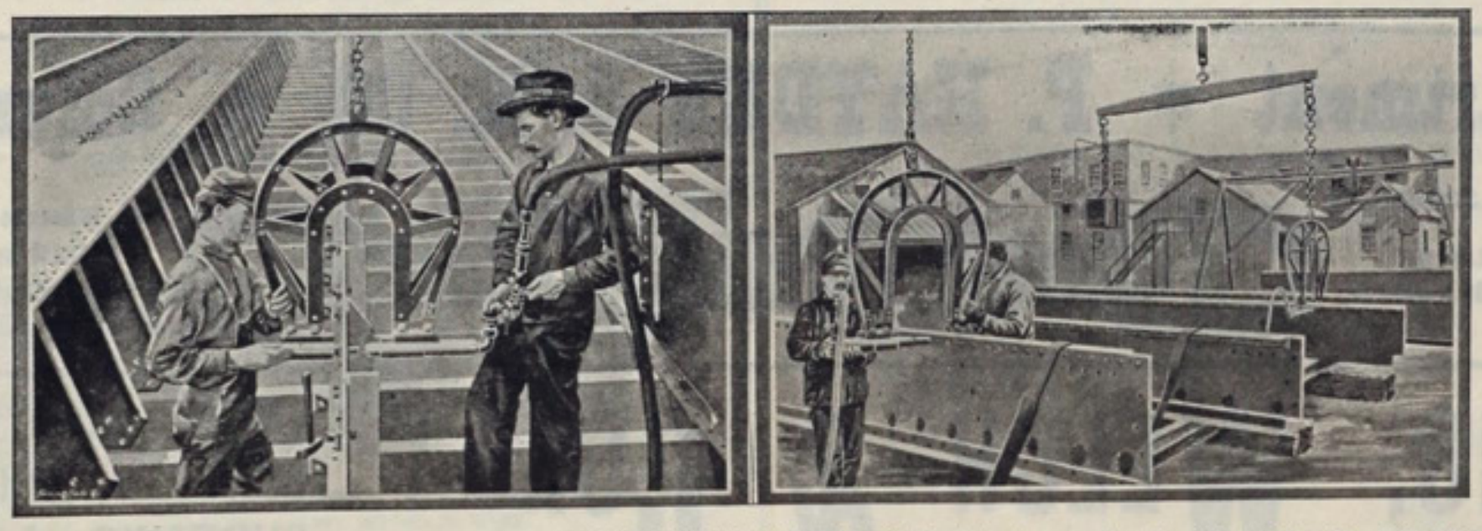

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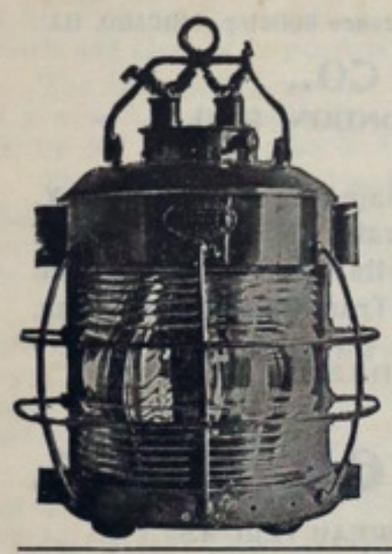

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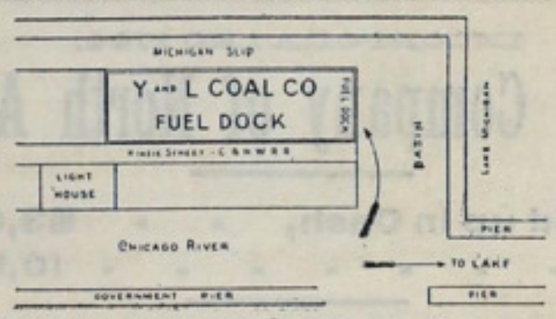

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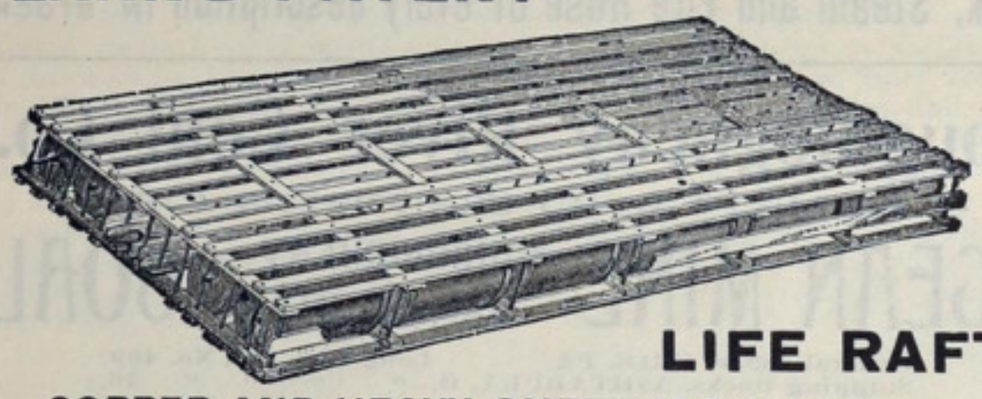

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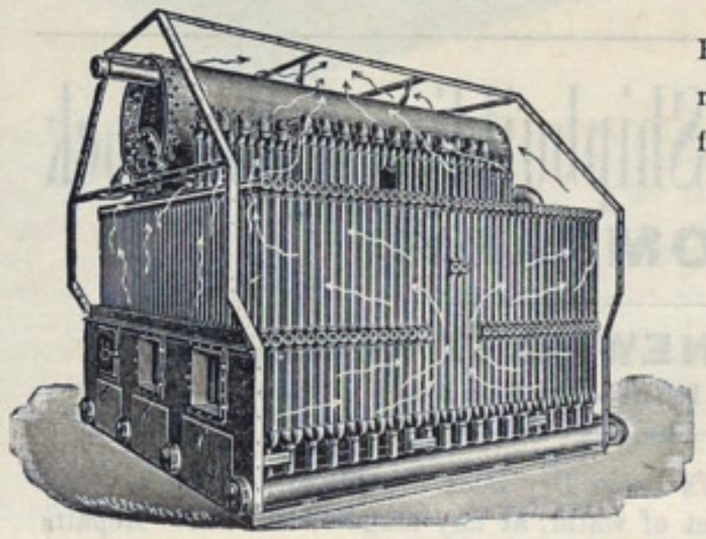

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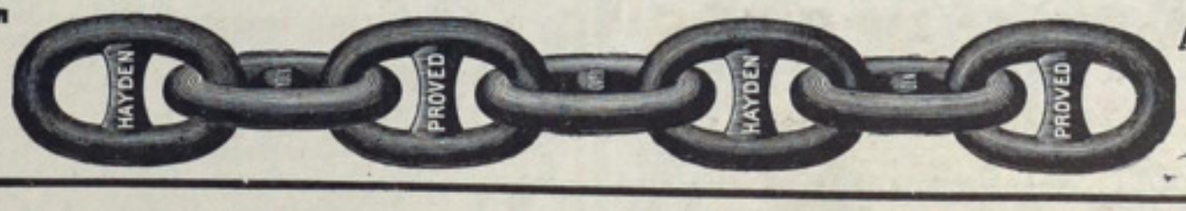

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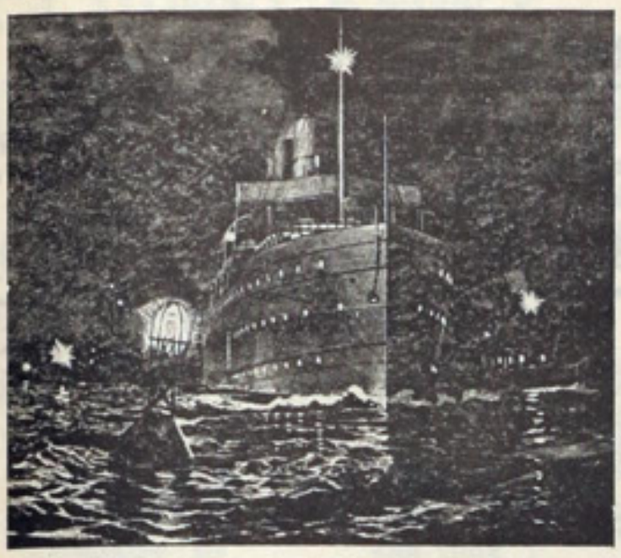

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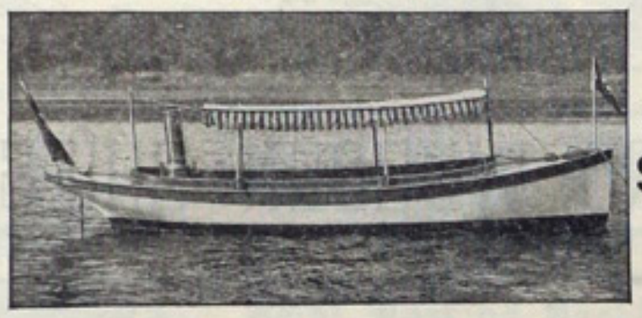

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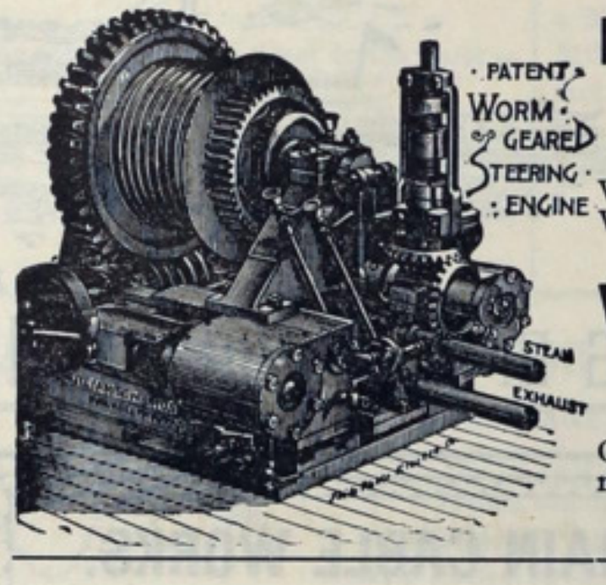

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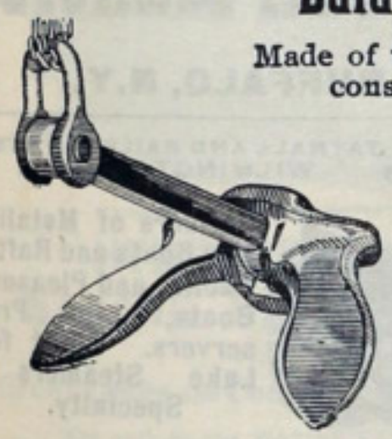

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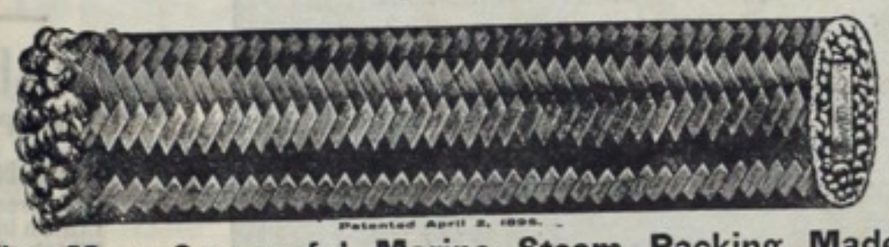

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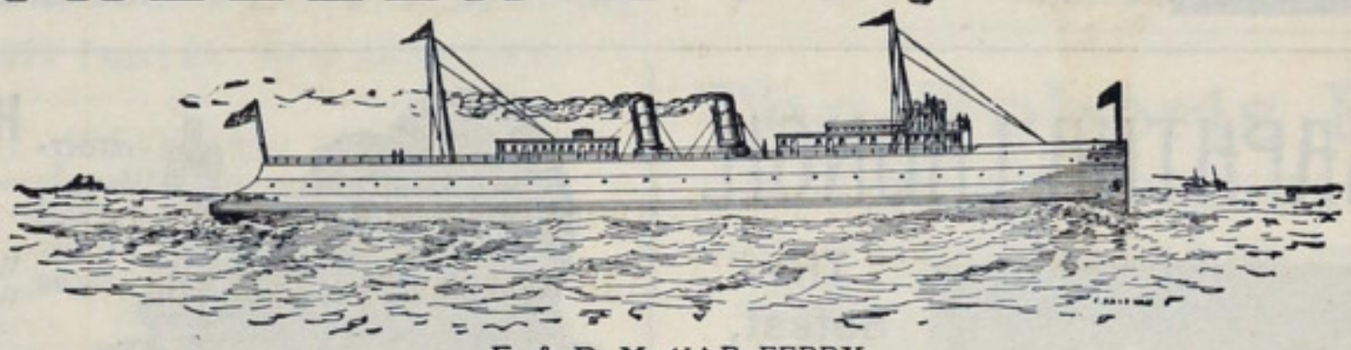

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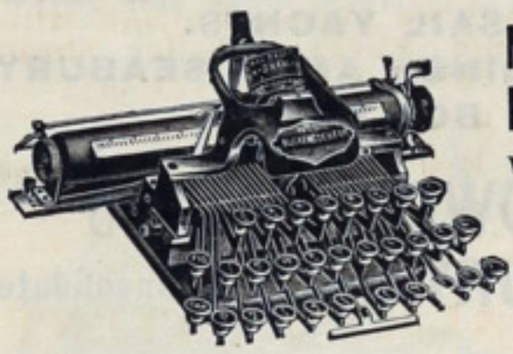

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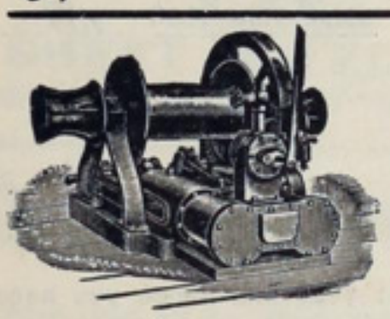

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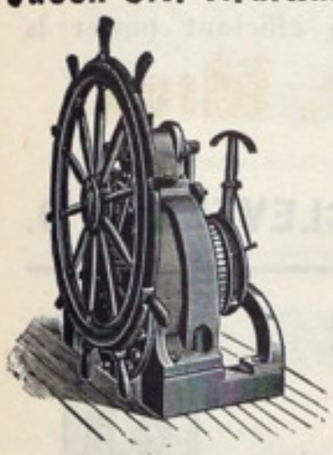

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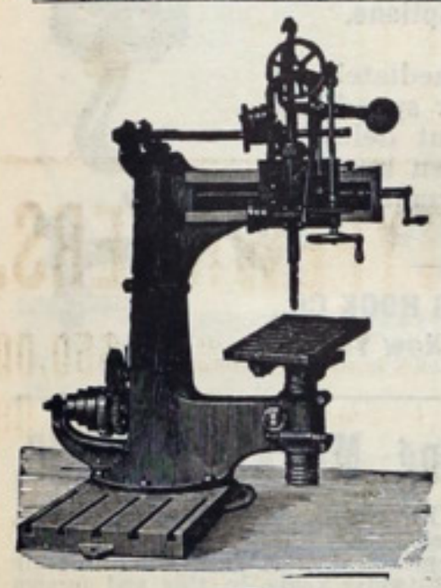

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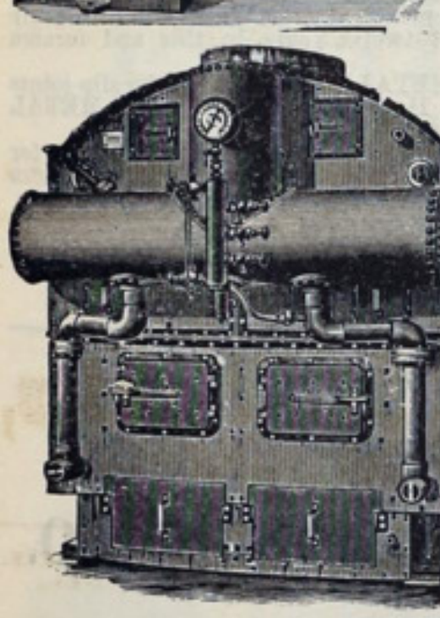

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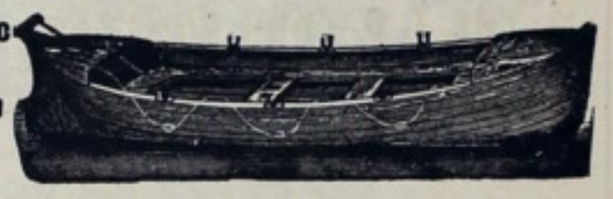

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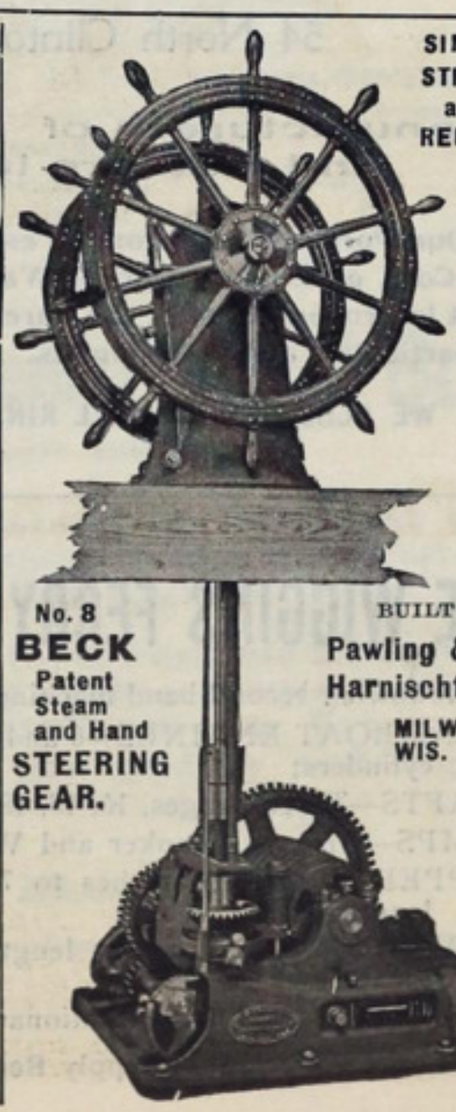

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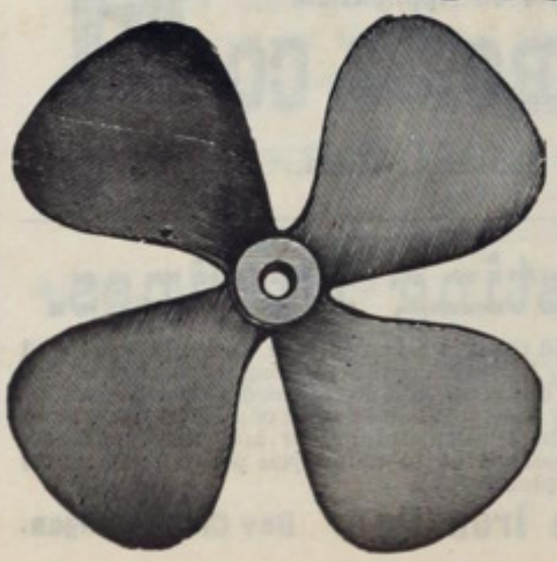

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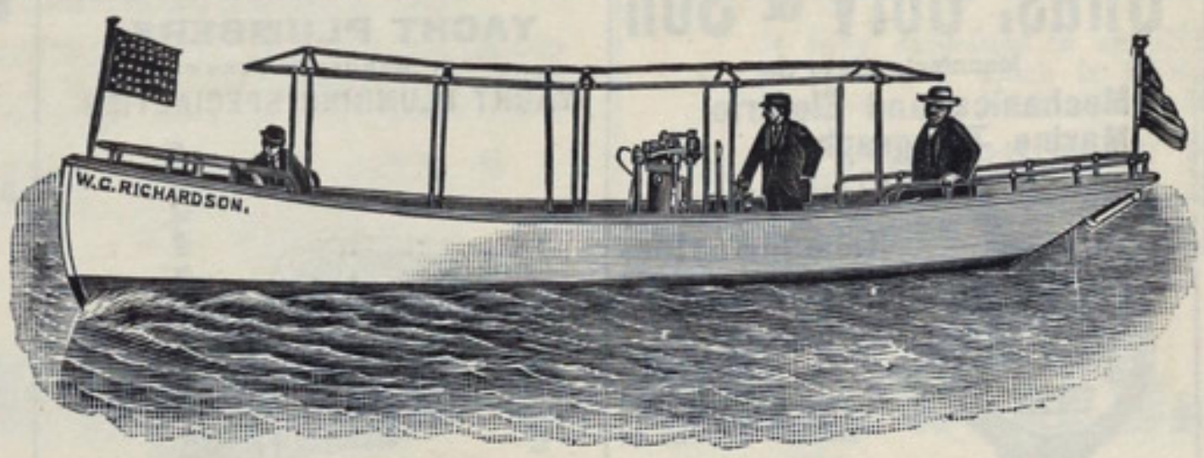

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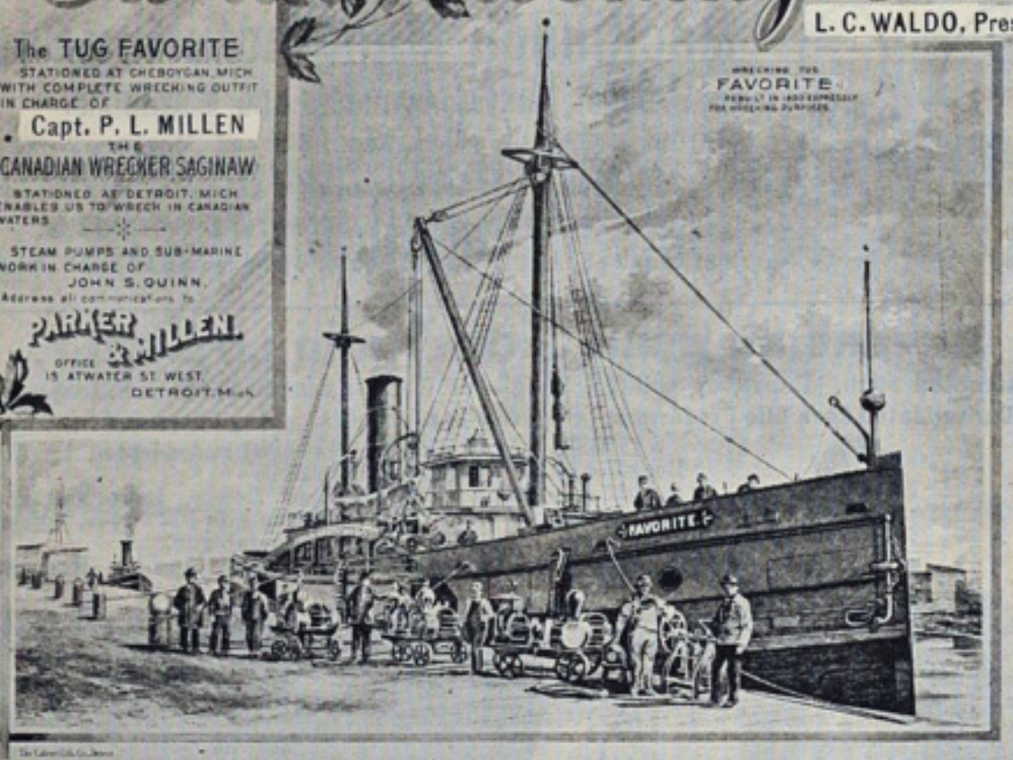

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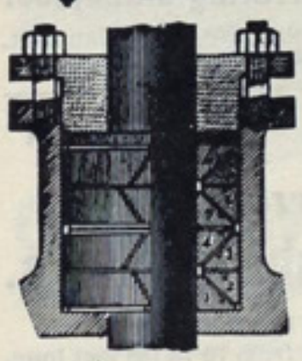

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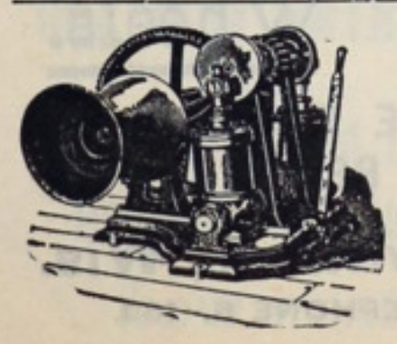

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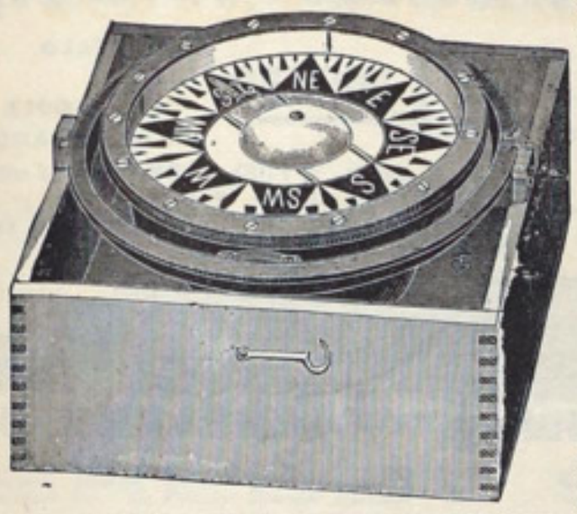

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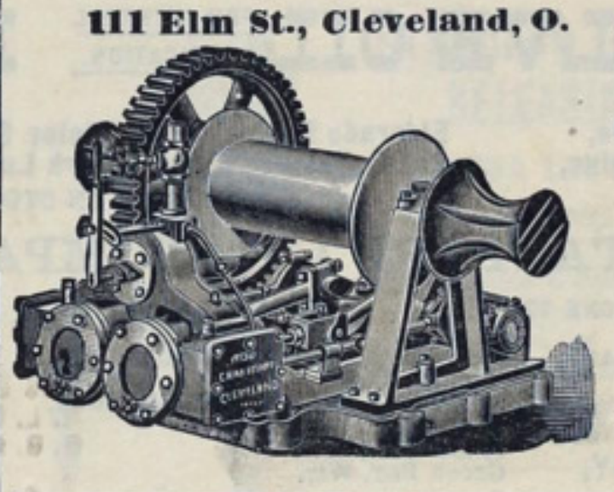

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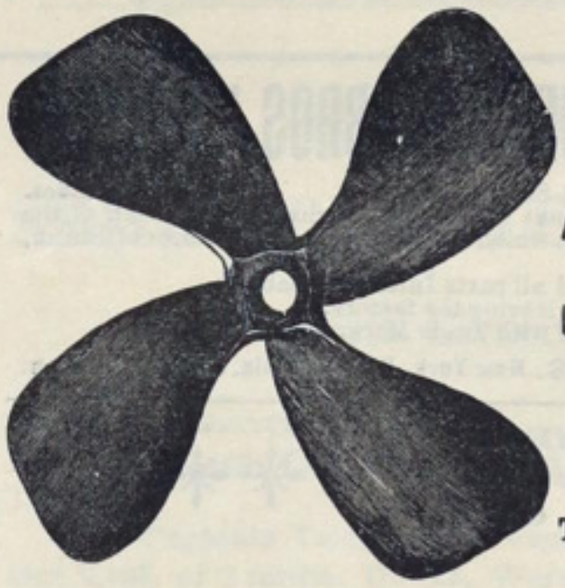

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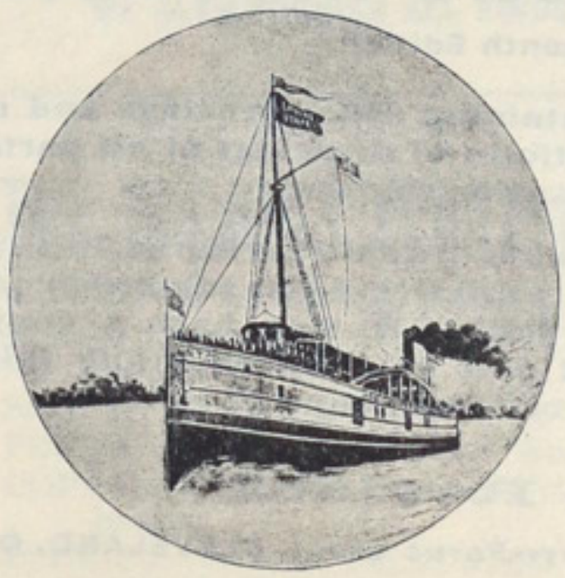

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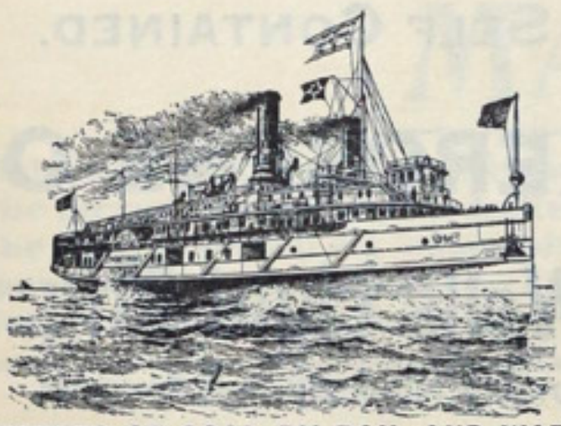

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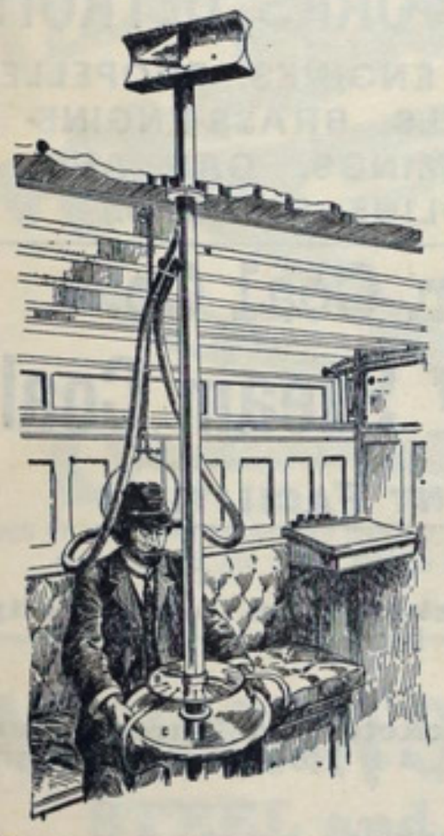

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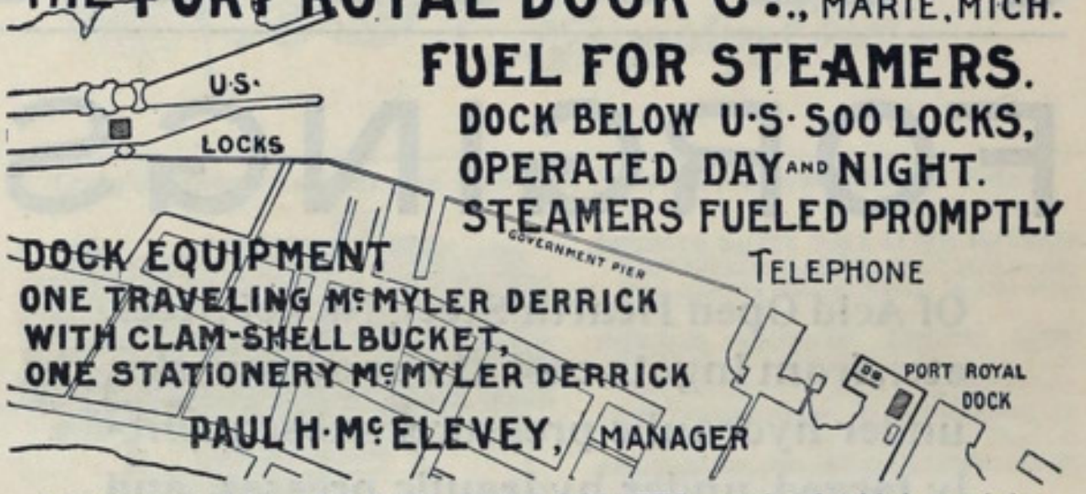

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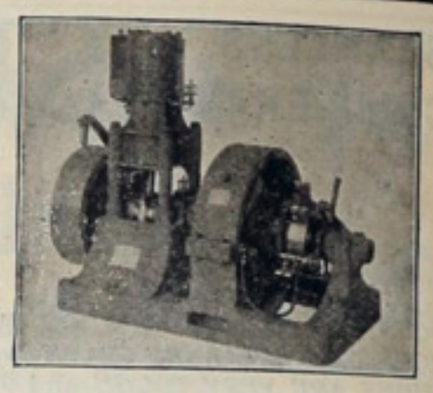

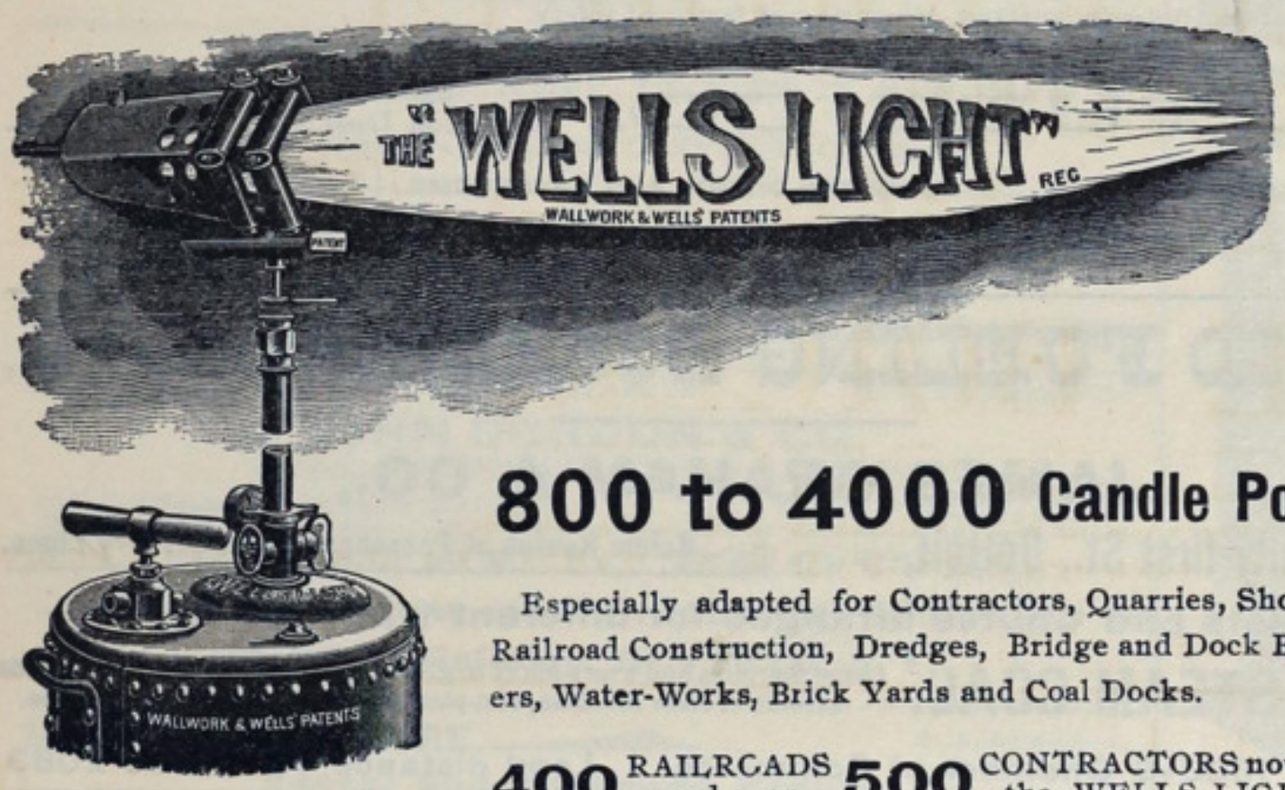

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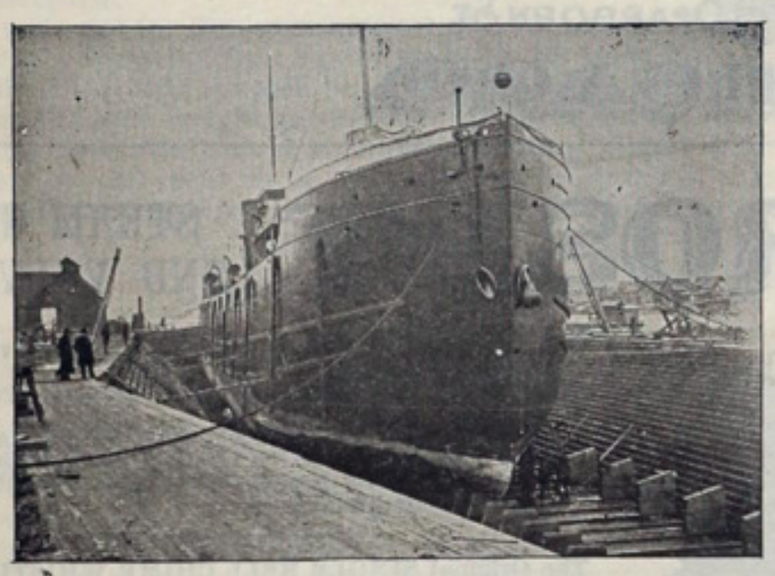

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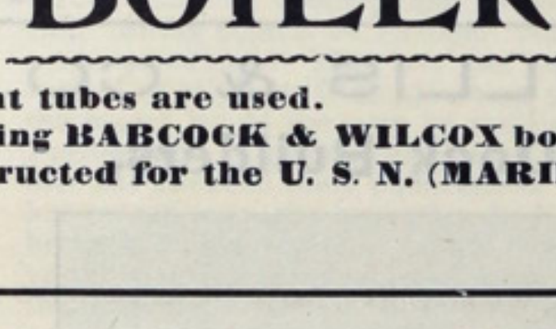

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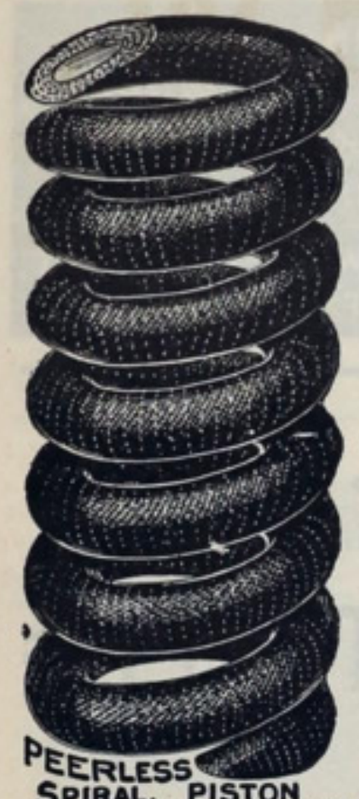

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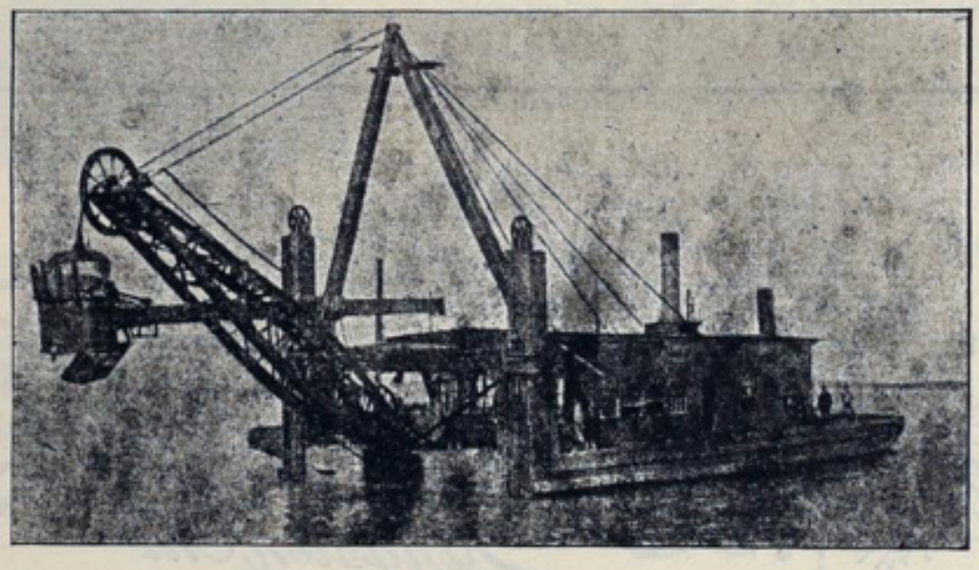

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